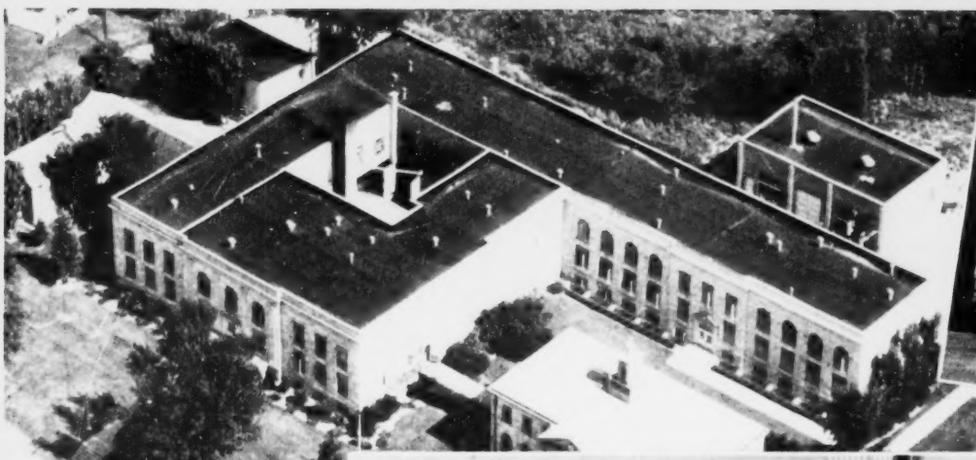
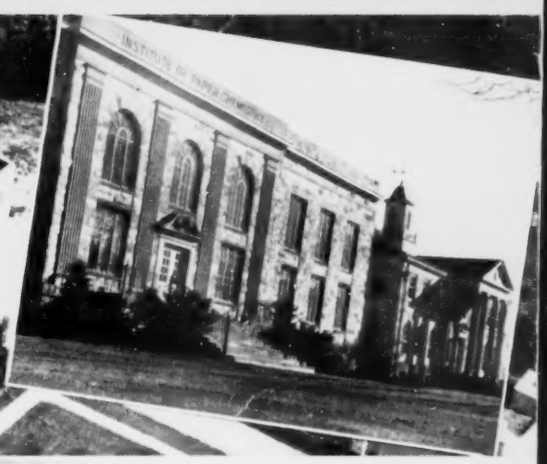
THE PRODUCTION AND MANAGEMENT JOURNAL OF THE NORTH AMERICAN PULP AND PAPER INDUSTRY

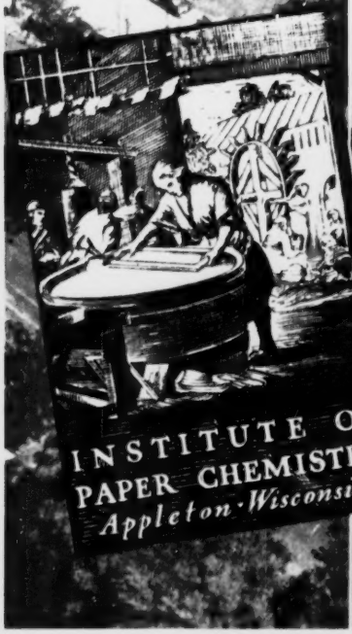
PULP & PAPER

Cellulose Age

APRIL 1948 VOL. 22, NO. 4







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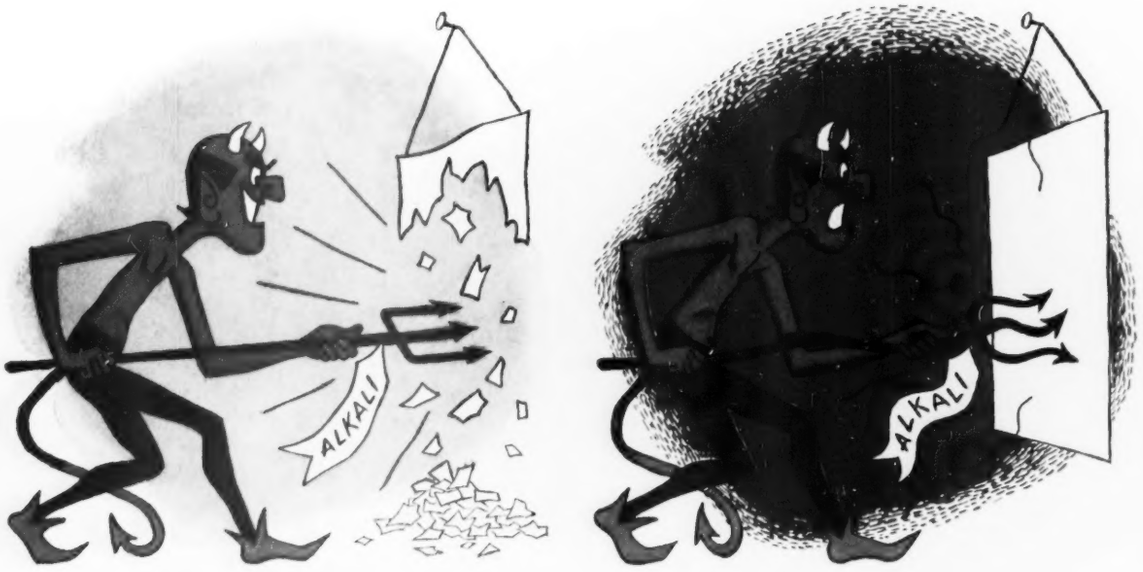

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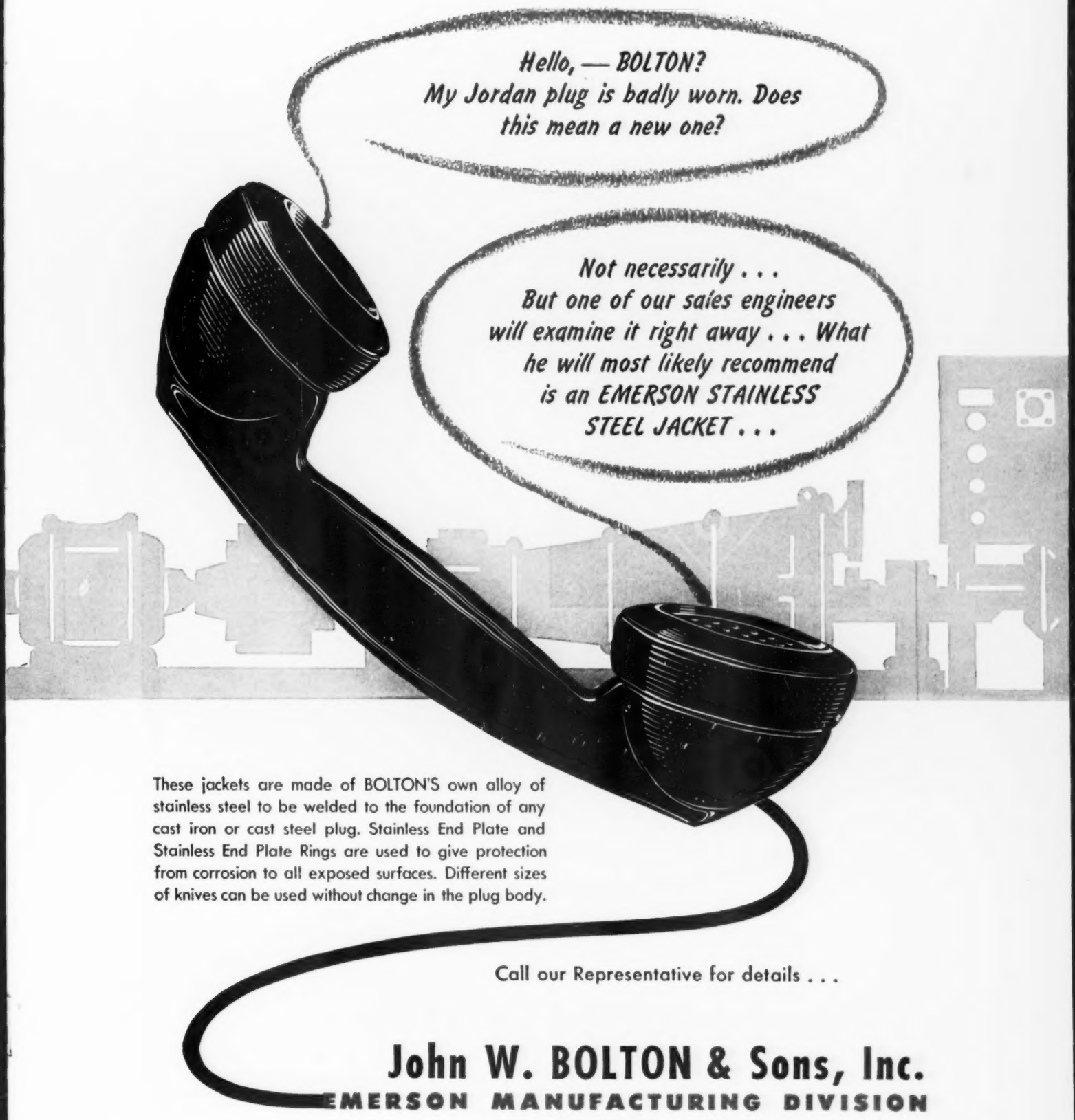
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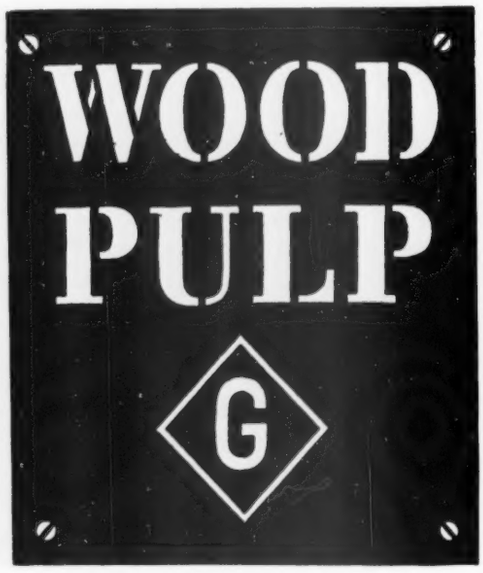

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PULP & PAPER

Production and Management Magazine of the Industry

April. 1953
Vol. 27—No. 4

"The Cellulose Age"

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Bureaucracy at Work

This choice bit of news was learned at Paper Week but not in any technical or other report in any formal session.

As this issue went to press, the pulp and paper industry could not use more than 2½ per cent molybdenum with 18.8 stainless steel (8 per cent nickel and 18 per cent chrome). This was a reduction from 3 per cent "moly" which had formerly been permitted.

Two years of trials have shown the lower content will not last in certain places, mostly in sulfite mills and to a less serious degree in kraft.

So, thanks to this order by government bureaucracy, 8% of nickel, which is in tight supply, was being thrown away just to save a half per cent of "moly"!

It is possible that as a result of protests, permission to mills to again use 3 per cent molybdenum will have been granted by the time this is published, or very soon at any rate—it is to be hoped.

A Governor Who Knows Pulp and Paper

B. Frank Heintzelman's appointment as the new governor of Alaska will be very encouraging for the future industrial development of that region and particularly in its first year-around industry—pulp and paper.

As pointed out in this column after the Republican election victory, Mr. Heintzelman was a highly regarded candidate, who knows personally many of the highest placed executives of pulp and paper mills all over the United States. He has talked to many of them over the past quarter century in his tireless, almost single-handed campaign to interest investment in Alaska mills. He has been Alaska regional forester for 16 years.

For the very first issue of this magazine, 26 years ago, Mr. Heintzelman wrote an article on pulp possibilities in Alaska and many times since then he has similarly been quoted in PULP & PAPER.

The Changing Forest Pattern

In an era marked by a growing attitude of "let the government do it," it is encouraging to note that life insurance companies today are entering the comparatively barren field of forest credit and making long-term loans on well-managed timber tracts. Mortgage loan men have discovered that "Trees are a crop." They have also learned that many woodland owners desire to consolidate their indebtedness over long-term periods, a condition more conducive to good woodland management than short term loans.

That the Traveler's, Prudential and Equitable insurance companies have embarked on a multi-million dollar program of woodland loans, in itself, presents solid evidence that forest management in the nation grows increasingly healthy. When coupled with the broad pattern of forestry accomplishment spearheaded by the wood industries in recent years, it is evident that few programs have come so far at so fast a clip.

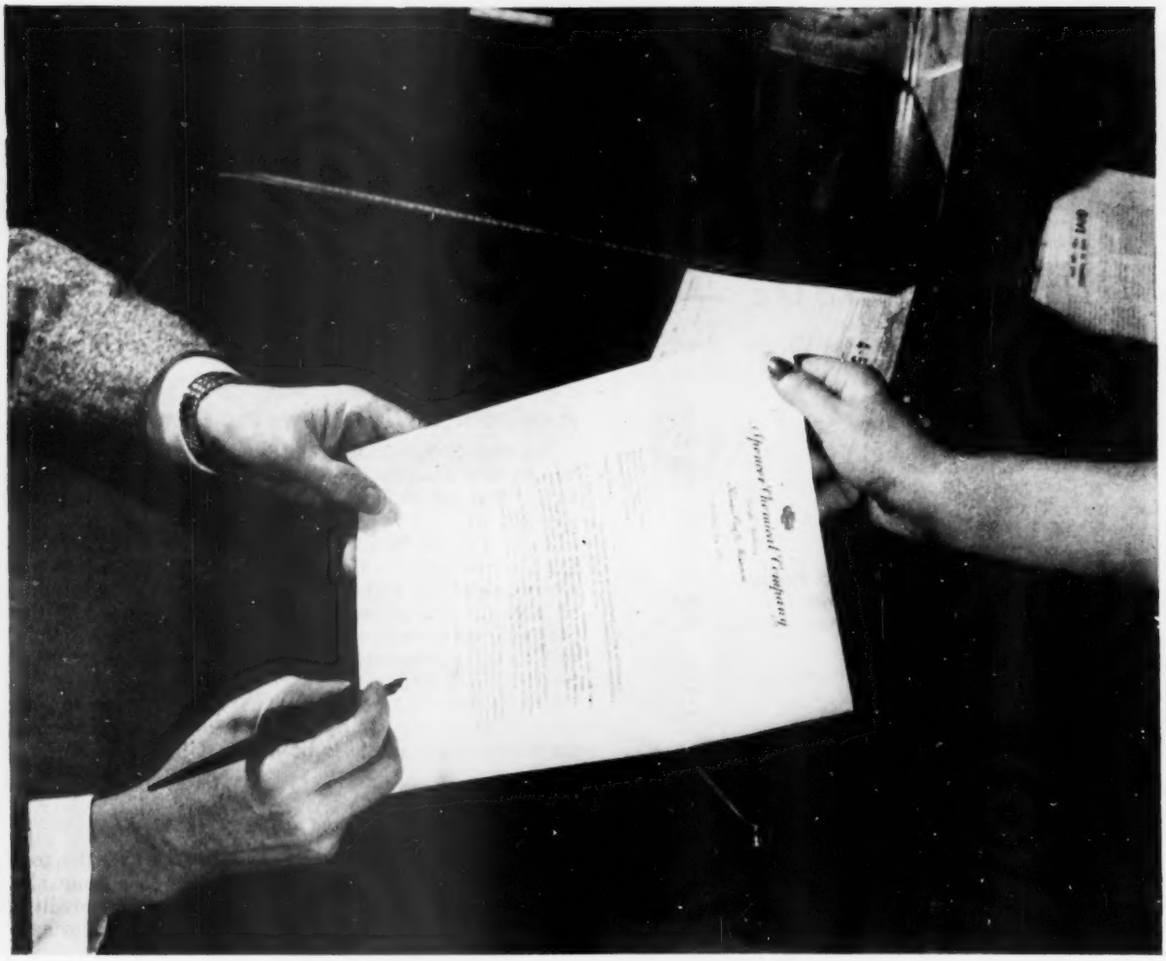
When one considers that only a few brief years ago forest land was lumped in the same general investment category as pastureland—some predicted it would be another decade before credit was available—this new interest by mortgage loan men can only mean that another milestone has been passed in putting the nation's forestry house in order. For years, timber tracts have been regarded as "unimproved real estate." Today, mortgage loan men are asking, "How can tracts that produce a cash crop every few years and steadily improve in the process be regarded as 'unimproved'? Today, timber is a crop."—*Jas. B. Craig, American Forest Products Industries, Inc.*

Regarding Expansion

"There is no basic problem of over-expansion of the paper industry in the United States in the foreseeable future. The industry is operating more sensibly than in the past in regards to expansion."—J. D. ZELLERBACH, president, Crown Zellerbach Corp.

A Prediction

"We need have no fear of any violent recession in business . . . the short range outlook covering a period of two or three years is not at all disheartening . . . there will be a gradual and orderly transition from wartime to peacetime activity."—D. CLARK EVEREST, chairman of board, Marathon Corp.



The Bond Between Them

Few things are so important to the efficiency of a busy business executive as a capable, intelligent secretary. A good one is worth her weight in gold.

Almost any secretary, however, can turn out more work each day when she is supplied with a good grade of *bond* paper. For few things are more damaging to a secretary's morale or efficiency than trying to type neat-looking business letters on a flimsy, inferior paper.

Much of the bond paper that America produces comes from paper mills that use the new ammonium bisulfite process. Because Spencer Chemical Company supplies an ever-increasing amount of commercial grade anhydrous ammonia to such mills, each new development in this field is studied carefully.

With the completion of new works now under construction, Spencer expects to be in a position to supply ammonia to a number of additional mills planning to go over to the ammonium bisulfite process. If your mill has such plans, we would like to talk to you about the possibility of supplying your ammonia.

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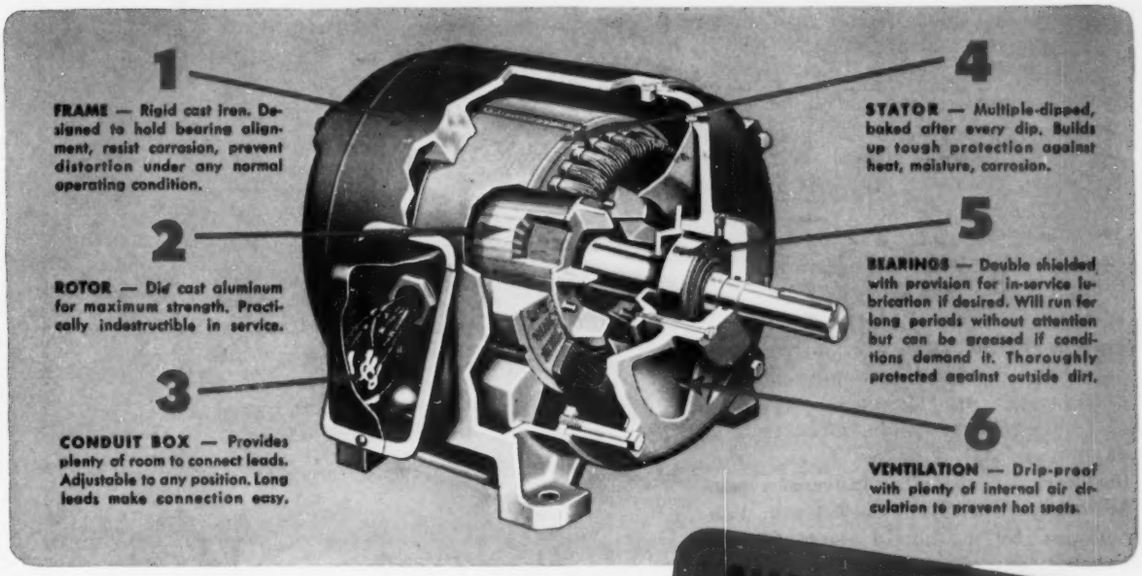
Look for These 6 Signs of Good Motor Design


1
FRAME — Rigid cast iron. Designed to hold bearing alignment, resist corrosion, prevent distortion under any normal operating condition.
2
ROTOR — Die cast aluminum for maximum strength. Practically indestructible in service.
3
CONDUIT BOX — Provides plenty of room to connect leads. Adjustable to any position. Long leads make connection easy.
4
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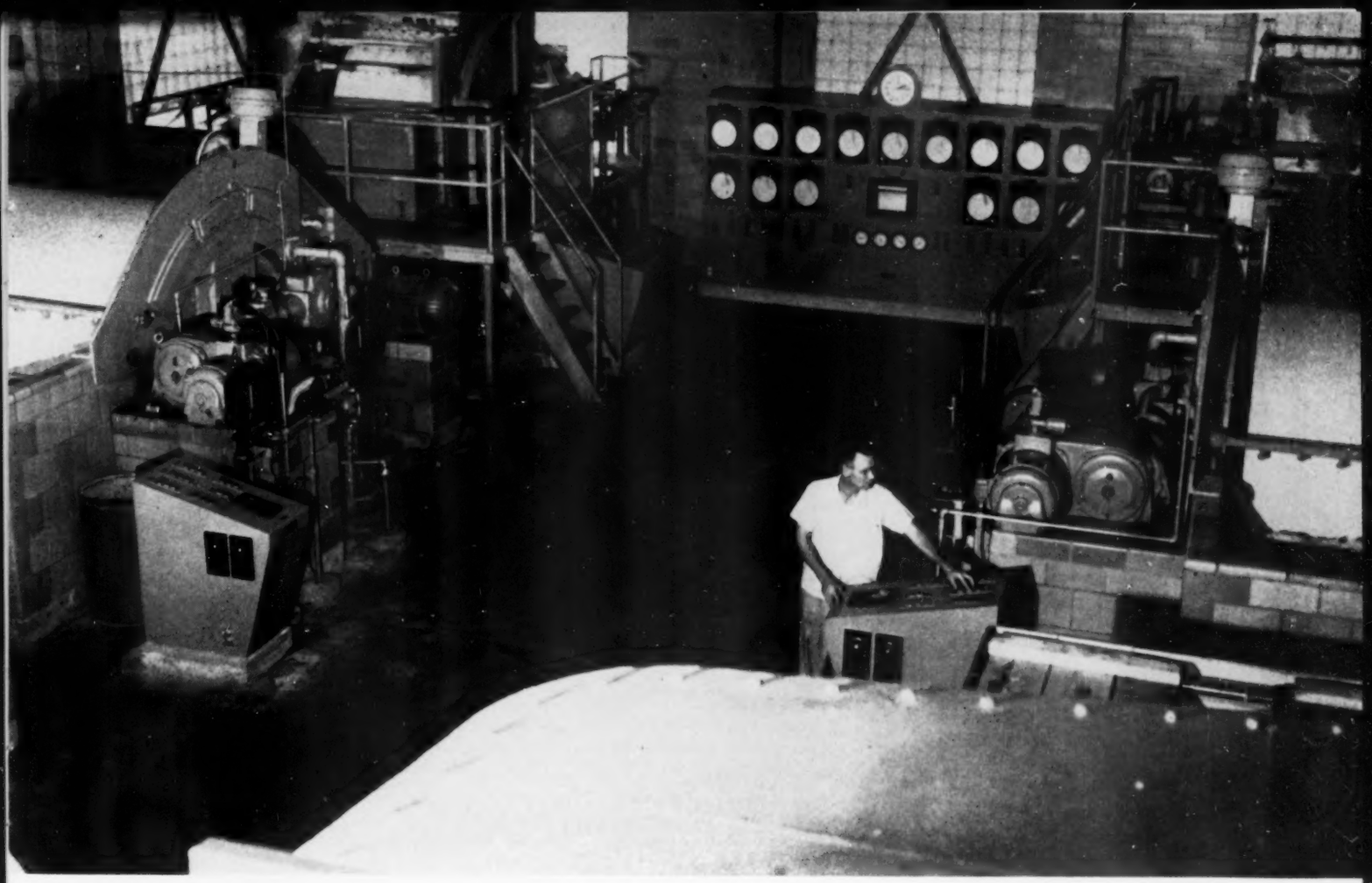
When trouble strikes, a wire or telephone call will bring a service man to your plant . . . often within a few hours. This assurance of prompt action means a lot to your production schedules. You'll never be left out on a limb because of delays in instrument maintenance.

Periodic Service Plan

But why wait for emergencies? Preventive medicine works on instruments, too. And the prescription is simple . . . a Periodic Service Contract, which brings a Honeywell service man to your plant at regular intervals to inspect, clean and adjust any Honeywell instruments you have. The plan is economical . . . can save you many hours of lost production time. Your nearest Honeywell office will be glad to give you full details.

Honeywell simplifies

TRAINED TO SERVE: *In Honeywell's service school, students get a thorough grounding in instrument theory and practice. After graduation, they become part of the most extensive organization of its kind in the world . . . ready to serve you competently and promptly, whenever and wherever you need them.*



COORDINATED CONTROL *for bleach lines is centralized by the panel of Honeywell instruments (in background) . . . supplemented by push button consoles at each washer.*

engineered control bleach plant operation

CONTROL was a real problem in the large eastern mill of which one section is pictured above. Three bleach lines are scattered over three floors. And, as further complication, quantity and nature of stock change frequently.

The Honeywell control equipment, custom-engineered for this plant, provides the ideal combination of flexibility and convenience. A main panel affords centralized control of all critical variables, and individual "push button" consoles permit manual regulation of washers and thickeners. Operators can efficiently supervise temperatures, flows, liquid levels, and other variables essential to the functioning of all three bleach lines. And they can make on-the-spot adjustments of individual processes whenever changes in stock occur.

To meet the diversified needs of the industry, Honeywell has developed a complete line of sensing elements, instruments and controls. Honeywell's engineering knowledge, gained through years of experience with paper mill problems, puts these products to work most effectively . . . assures you peak performance from your process equipment.

Whether you are planning new facilities or modernizing present equipment, you'll find it pays to utilize Honeywell technical skills and precision-built products. Call your nearest engineering representative for a discussion of your requirements . . . he is as near as your phone.

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• **REFERENCE DATA:** Write for Bulletin 2802, "Instrumentation for the Paper Industry."

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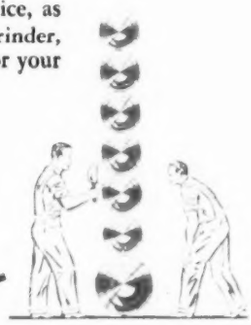

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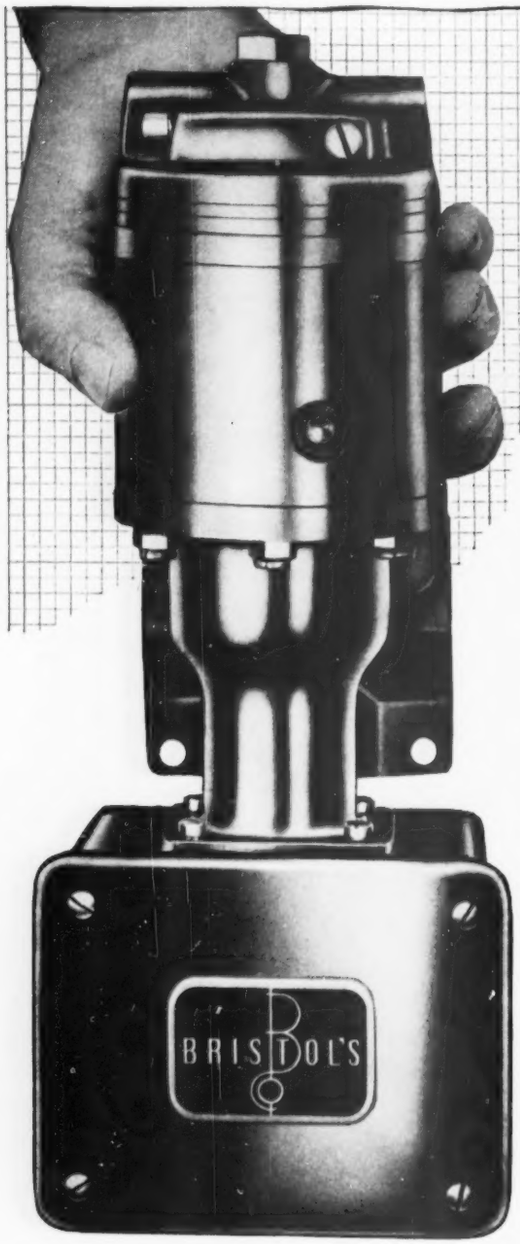

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LOOK FOR OUTSTANDING NEW DEVELOPMENTS FROM BRISTOL

BRISTOL

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AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

A Progress Report on the Status of FluoSolids

Applications of Non-Catalytic Fluid Techniques Expanding into Many New Fields

Pioneered by Standard Oil Development Company during World War II, fluidization is today widely recognized as an ideal means of promoting intimate contact between solids and gases. As licensee in all non-catalytic non-hydrocarbon fields, The Dorr Company has continually expanded the applications of this new technique since 1944. At the present time, FluoSolids is demonstrating outstanding advantages in the processing of a wide variety of metallic and non-metallic minerals, and holds great promise for the future in other fields not yet fully developed.

GOLD

One of the first applications of the Dorrco FluoSolids System was the roasting of arsenopyrite gold ores prior to cyanidation, and several installations have been operating with marked success for two to five years. Latest development for gold roasting is the split compartment Reactor. In this type of unit, preliminary reducing conditions are provided in one half of the Reactor and a complete oxidizing roast in the other, resulting in decreased cyanide consumption and better metallurgy at the mill.

PYRITE

The sulfur shortage has contributed to great activity in the pulp and paper field. Eight FluoSolids Systems in the U. S., Canada and Norway are either in operation or under construction in sulfite pulp mills, for the production of SO_2 for cooking liquor. Eight more are in operation or being installed to produce SO_2 from pyrite, pyrrhotite and low grade sulfur ores at acid plants, which will produce over 1200 tons per day of H_2SO_4 by the contact method. This impressive record results directly from the fact that FluoSolids can deliver a high strength SO_2 gas at lower investment and operating costs than conventional roasters and provides users with an economically feasible and reliable source of SO_2 despite fluctuations in natural sulfur supply.

ZINC

The first commercial FluoSolids installation for the roasting of zinc concentrate went into operation in the summer of 1952. It is producing SO_2 gas for sulfuric acid manufacture and a desulfurized zinc calcine for leaching, prior to electrolytic zinc production. Results to date have demonstrated marked simplicity of control and operation, and two other zinc producers have ordered similar Systems.

COPPER

More recently, the first FluoSolids System to provide a sulfating roast to a copper-zinc concentrate went into operation. In this application, close operating controls make it possible to render the valuable base metals soluble and, at the same time, minimize solubility of the iron. This permits high recoveries of copper and zinc by leaching. When followed by electrolytic precipitation, economic advantages are indicated under many conditions as compared with conventional smelting practice.

NEW DEVELOPMENTS

Studies to explore the utilization of FluoSolids for the beneficiation of low grade iron ore are now being conducted. In this operation, hematite is given a reducing roast to convert it to magnetite for subsequent concentration by wet magnetic means. Higher unit recovery of iron and the production of better concentrate grades indicates improved economics as compared with other beneficiation methods.

Among the other numerous fields currently under investigation are the calcination of alumina, the reburning of precipitated lime sludge and the self roasting of low grade sulfur ores.

If you would like more information on FluoSolids — the most significant advance in roasting technique in the last 30 years — write The Dorr Company, Stamford, Conn. or in Canada, The Dorr Company, 26 St. Clair Avenue East, Toronto 5.

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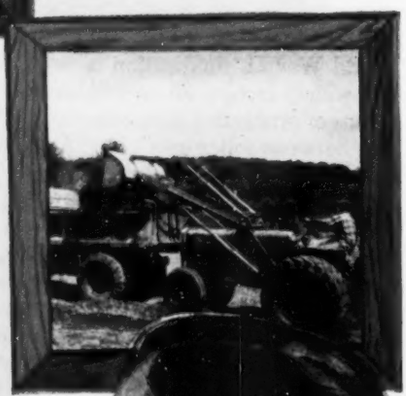
depending on how you want it. Hydraulic controls make this possible. Mid-section pivot of loader arms give longer reach in dumping position.

STRIPPING TOP SOIL
is another job this versatile unit does well. The simple rugged design of the Ware loader correctly distributes weight on tractor frame, regardless of the operation being performed. Down-pressure can be applied when it is necessary in tough digging. Hydraulic rams absorb shock loads . . . mean longer life and lower maintenance for both tractor and loader.



HYDRAULICALLY CONTROLLED BUCKET
assures greater "breaking-out" action—full bucket loads every time. 28° roll back helps prevent wasteful spillage.

Picture Your Profits...

with this

OLIVER HYDRAULIC Tractor-Loader

An Oliver Industrial Wheel Tractor with this *all-hydraulic* front-end loader is a combination that's hard to beat for low-cost, profitable operation. With any Oliver Wheel Tractor, you get famous Oliver *dependable* plus power, easy maneuverability, rugged construction. With the loader, manufactured exclusively for Oliver Wheel Tractors by Ware Machine Works, you get completely hydraulic operation which means easier, surer control for more efficient digging and loading.

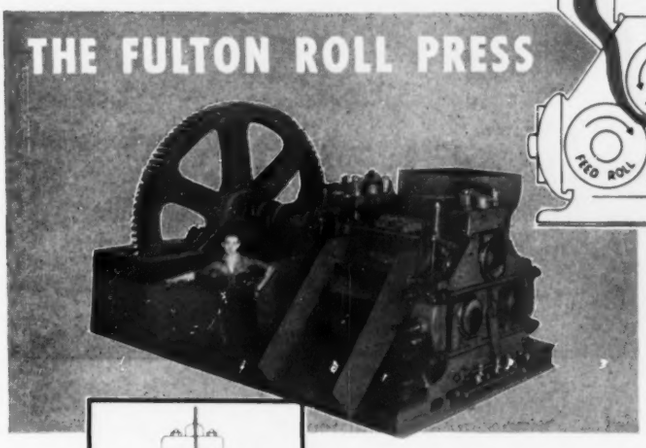
Take a look at the "profit pictures" shown here. They'll convince you that it's well worthwhile to ask your Oliver Industrial Distributor to arrange a demonstration of an Oliver tractor-loader combination for you.

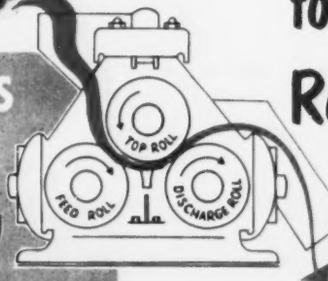
THE OLIVER CORPORATION

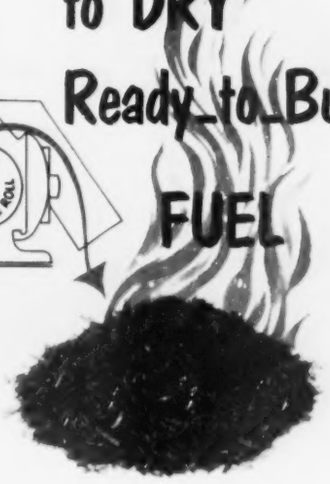
400 West Madison Street, Chicago 6, Illinois

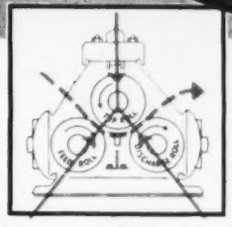
A complete line of industrial wheel and crawler tractors

THE DOUBLE SQUEEZE ...the profitable FULTON way of converting WET WASTE BARK to DRY Ready-to-Burn FUEL









THE EXCLUSIVE FULTON "DOUBLE SQUEEZE" DESIGN explains why the Fulton Roll Press is doubly efficient in reducing a soggy waste to a profitable asset. The combination of hydraulic pressure, plus the shredding action of the grooved top and feed rolls, serve to prepare the material for the *second* squeeze through the top and discharge rolls. The result is a bark ready for instant use as a fuel . . . millions of new BTU's in fuel value to replace present waste.

Want More Proof?

Put FULTON to the Test—without obligation ▶

FULTON IRON WORKS CO. 1852 1953 101 YEARS ST. LOUIS, MO., U.S.A.

FULTON

Makers of Fine Processing and Extraction Equipment Since 1852

represented by:

E. V. PRENTICE CO., 2303 N. Randolph Ave., Portland 12, Oregon

W. W. HENDERSON & SON, P. O. Box 1085, Pensacola, Fla.

Mail Coupon Now!

for full details and
FREE TEST RUN OF MATERIALS YOU WANT TO PROCESS

Fulton Iron Works Company, *Dept. 453*
1259 Delaware Ave., St. Louis 14, Mo.

Please send full details of FULTON ROLL PRESS

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FIRM _____

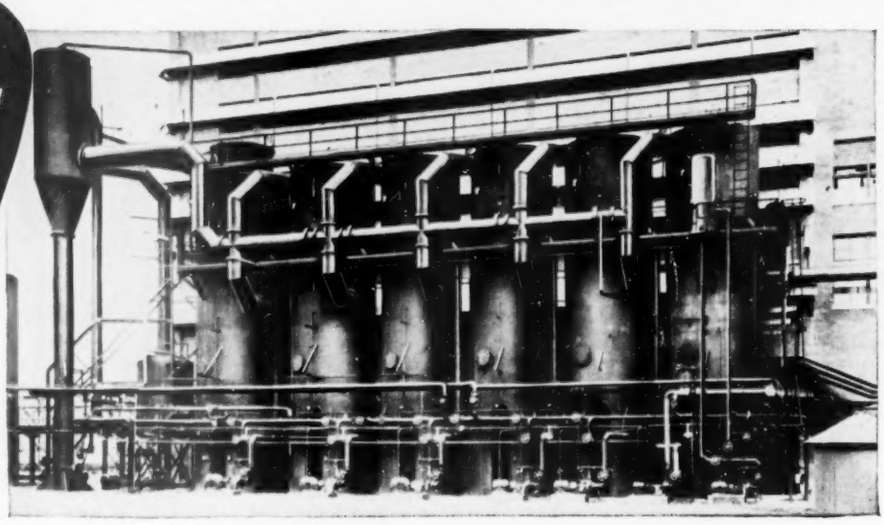
ADDRESS _____

CITY _____ ZONE ____ STATE _____

See
General American for
CREATIVE
EVAPORATOR
ENGINEERING

Installed outdoors or indoors . . . the new Conkey Integral Evaporator cuts overall evaporating costs

Designed to do your job best!



Conkey Integral Sextuple Effect Evaporator outdoor installation at southern pulp mill.

It's Self-Supporting—in more ways than one! Savings start the day the new Conkey Integral Evaporator comes into your plant. Unit is shipped fully assembled. A single up-ending operation sets it in place. As a result, you save on assembly, parts handling and erection costs. In addition, there are important savings in floor and building space—since no external centrifugal type separators, outside flash tanks and piping are needed. Where weather conditions permit, the entire unit may be installed outdoors—with no housing needed except for pumps and instruments.

Operating advantages of Conkey design are noteworthy. Because it reduces pressure drop losses between effects, it provides an increased working temperature drop across the heating element surface. This means a net positive gain in evaporation—extra evaporating capacity.

Long life—Integral construction eliminates many flanged joints, assuring both durability and tightness. For complete information that may be useful to your firm, write today.

Other General American Equipment:
Turbo-Mixers, Filters,
Dewaterers, Dryers,
Towers, Tanks, Bins,
Pressure Vessels

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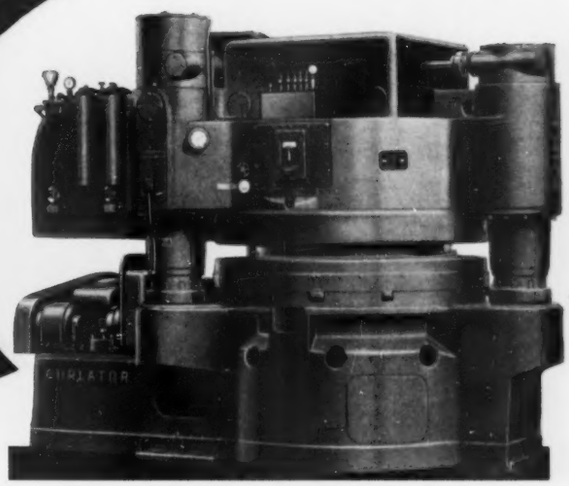
GENERAL AMERICAN
Transportation Corporation
Sales Offices: 10 East 49th Street, New York 17, N.Y.
General Offices: 135 S. La Salle St., Chicago 90, Ill.
In Canada:
Canadian Locomotive Company, Ltd., Kingston, Ontario

ANOTHER BIG REASON for installing A CURLATOR



14 LEADING MILLS ARE NOW CURLATING THEIR PULP

Since the Curlator was first announced in 1949 fourteen leading pulp and paper mills in the United States and Canada have installed them. Five mills have made multiple installations (one mill having eight Curlators). Proof in itself that Curlation improves paper qualities, saves wood, cuts costs. If your mill isn't Curlating pulp it will pay you to investigate, for only a Curlator can give you all these benefits:

INCREASED YIELD OF 5% is common in many normal pulps, since Curlation eliminates No. 2 pulp and fine screen rejects... converts shives and fiber bundles into No. 1 pulp. 65% yield in news sulphite is thoroughly practical.

INCREASED TEARING STRENGTH is imparted to paper made from Curlated pulp because fibers are given a permanent bend and twist. Tearing strength has been increased up to 60%.

FREENESS is retained because Curlation can not cut fiber. Curlator patented action rolls fiber and fiber bundles under pressure . . . imparts a permanent bend and twist.

WRITE for more detailed information. See the finer paper that can be made from your own pulp.

CURLATOR+ Corporation
EAST ROCHESTER, NEW YORK

+T.M. Reg.—Curlator Corporation, East Rochester, New York

Canadian Representative—Homad Services, Ltd., Montreal

POWELL RIVER

UNBLEACHED SULPHITE PULP

★ STRENGTH
★ COLOR
★ SERVICE
★ DEPENDABLE SUPPLY

POWELL RIVER SALES COMPANY LIMITED

1204 STANDARD BUILDING · VANCOUVER, B. C.

# of B&W Recovery Units

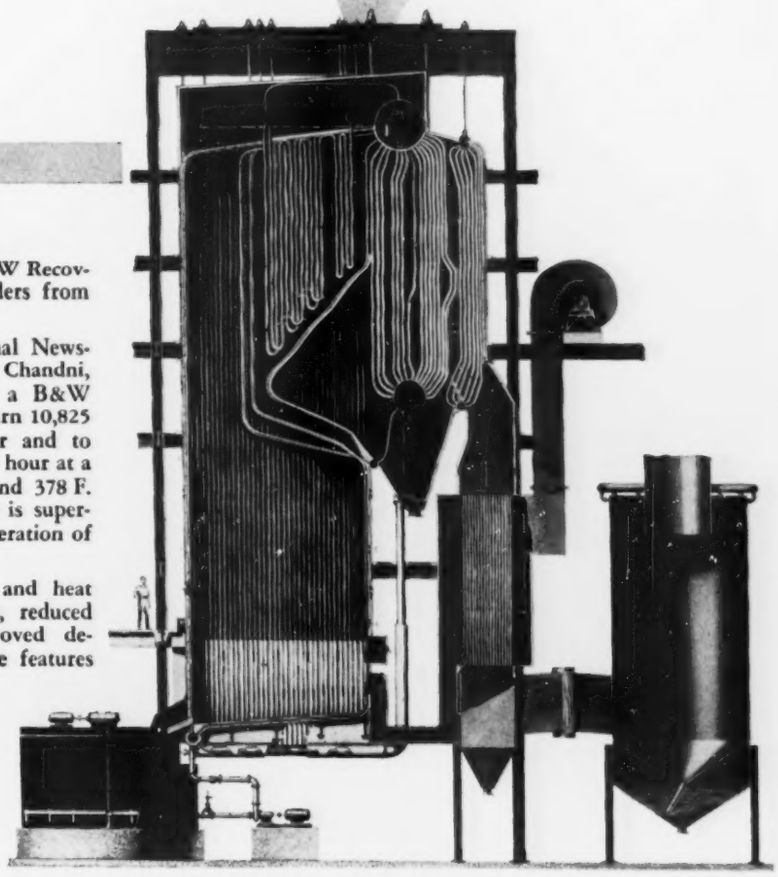
REPUTATION GOES A LONG WAY

. . . to India

World-wide confidence in B&W Recovery Units is indicated by orders from mills all over the globe.

Now on order for National Newsprint & Paper Mills, Ltd., of Chandni, Central Provinces, India, is a B&W Recovery Unit designed to burn 10,825 lb of black liquor per hour and to deliver 19,800 lb of steam per hour at a design pressure of 200 psi and 378 F. Ebasco Services Incorporated is supervising the installation and operation of this plant.

Highly efficient chemical and heat recovery, low-cost operation, reduced maintenance, and service-proved dependability, are some of the features responsible for a B&W reputation that is fast becoming known wherever pulp and paper mills operate. The Babcock & Wilcox Company, Boiler Division, 161 E. 42nd Street, New York 17, N. Y.



Typical B&W Recovery Unit with B&W Cyclone Evaporator

BABCOCK & WILCOX
BOILER DIVISION

P-775

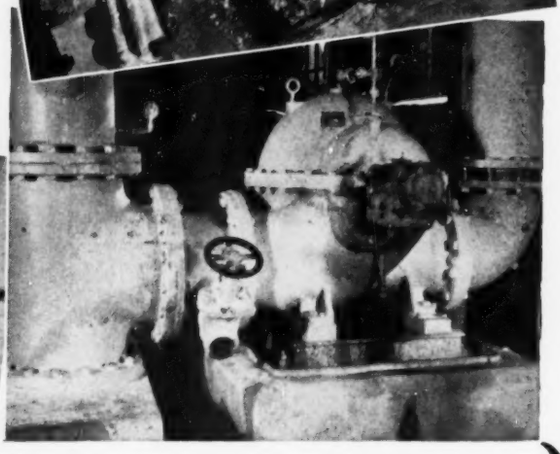
Out Michigan-Wisconsin way, too,

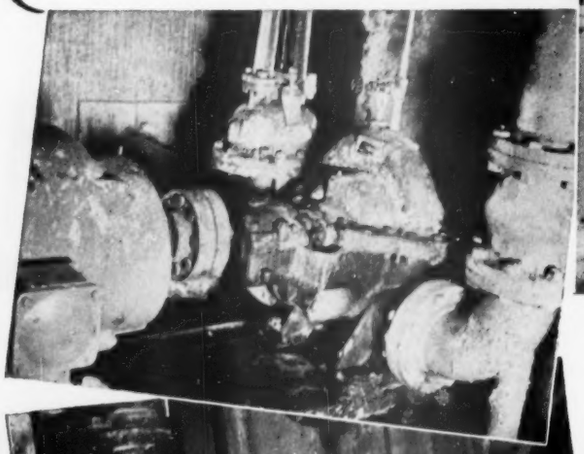
WARREN PUMPS

are job-proving themselves

at:

Cheboygan	Neenah	Kaukauna
Filer City	Oconto Falls	Marinette
Menominee	Kalamazoo	Menasha
Otsego	Appleton	Mosinee
Plainwell	Combined Locks	Nekoosa
Port Huron	Eau Claire	Tomahawk
Watervliet	Green Bay	etc., etc.





PROGRESSIVE mills in this important Pulp and Paper Mill producing area, like others throughout the country, select equipment, including *pumps*, upon the basis of job-proven performance, not promises. They have learned from their own experience, as well as that of hundreds of other progressive mill operators, that Warren Pumps have the necessary engineering know-how behind them and can be depended upon to successfully handle the services for which they are built.

You, too, can with confidence, put your pumping problems up to Warren!

PP28

WARREN PUMPS

WARREN STEAM PUMP COMPANY, INC., WARREN, MASSACHUSETTS

Centrifugal . . . . . Reciprocating . . . . . Rotary

Get these useful facts on bleaching

NEW 76-PAGE MANUAL

Describes pulp chlorination, production of lime bleach, preparation of soda bleach, analysis of hypochlorite solutions, equipment and methods for handling chlorine, and Hooker services available to you. For your free copy, write today on your business letterhead.

These bulletins on pulp and paper bleaching can help you obtain maximum efficiency from your bleaching operations. The following subjects are included:

- •201—Process and equipment for making bleach liquor for use without settling.
- •211—Chemistry of bleaching chemical wood pulps.
- •214—What do we know about bleaching?
- •236—Importance of pH and catalysts in bleaching operations.
- •242—Production and use of unsettled bleach liquor.
- •243—Procedures and brightness grades in bleaching sulfate pulps.

Copies of these bulletins, and a list of titles of other helpful literature, will be sent to you without obligation. Address your request to HOOKER ELECTROCHEMICAL COMPANY, 2 Union Street, Niagara Falls, N. Y.

From the Salt of the Earth

HOOKER ELECTROCHEMICAL COMPANY

NIAGARA FALLS • TACOMA • NEW YORK • CHICAGO • LOS ANGELES

HOOKER CHEMICALS

when you specify light wall schedule 5 pipe

WHAT SCHEDULE 5 PIPE IS—
A light wall pipe, Carpenter Schedule 5 gives you more feet of pipe for every pound of scarce stainless steel. So you can quickly see how Schedule 5 reduces your cost per foot. Plus the fact that the larger I.D. means increased flow area.

HOW SCHEDULE 5 REDUCES COSTS
First saving is 40% to 50% on the cost of your pipe.

Since Schedule 5 is considerably lighter, this means quicker and easier installation.

And, because the increased capacity of Schedule 5 lets you use the next smaller pipe size, you can reduce substantially your costs of valves, fittings, etc.

FITTINGS ARE AVAILABLE
This pipe is easily adapted to use with existing lines of tubing or Schedule 40 and 10 pipe, using simple connectors. Fittings as well as stocks of Schedule 5 pipe are carried by conveniently located Carpenter distributors.

ADDITIONAL ADVANTAGES

Tubing sizes can now be replaced with light wall *pipe* . . . for ready hook-up with standard valves, pumps and other equipment which is normally manufactured in pipe sizes.

Data Sheets give you complete information about Carpenter Schedule 5 Stainless Pipe. Write for your personal copy. THE CARPENTER STEEL COMPANY, Alloy Tube Division, Union, N. J.

Export Dept.: The Carpenter Steel Co., Port Washington, N.Y. "CARSTEELCO"

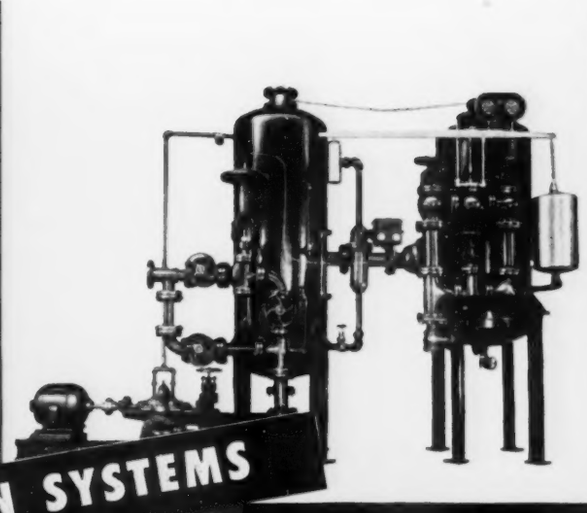
Carpenter

THE U.S. NEEDS YOUR STEEL SCRAP NOW

STAINLESS TUBING & PIPE

- guaranteed on every shipment

TYPICAL FULTON SYSTEMS



FOR SMALLER MACHINES

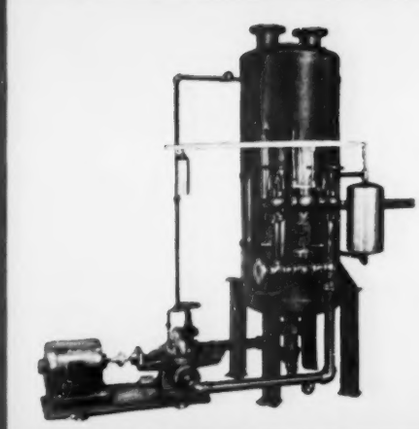
FOR OLDER MACHINES

Here's the Fulton dryer drainage story and we'll tell it to you quick.

There are now Fulton Dryer Drainage Systems on all the latest machines—all paper machine builders specify Fulton. They are also going onto the smaller and older machines in increasing numbers.

Why! Because a Fulton system always pays off and no group of mill officials can afford the quality, tonnage and steam losses due to improper drying.

And so we urge you operators of smaller and older mills still staggering along without Fulton drainage to check with some of the operators that know it first hand—and do it soon. Also write for technical bulletin.



10% to 30% production increase.

Positive reaction in steam coats —even with tonnage gains.

Improved quality. Uniform drying. Less cockle or curl.

Moisture content control.

No over-drying.

Engineering survey-machine study. No obligation.

THE MIDWEST-FULTON MACHINE CO.

DAYTON, OHIO

Sometimes it's a "FAMILY AFFAIR"

Though they all come from the same house . . . one may be a lawyer, another a doctor, a business executive, and a scientist. When each is a success individually, the whole *family* has a reputation for success.

The world-wide reputation of the house of Anheuser-Busch is like that . . . built by all of its divisions and departments, though each is a specialist in its own right.

The Corn Products Department of Anheuser-Busch is such a specialist . . . with special people and special products devoted entirely to the needs of the Paper Industry. Its technical staff has had notable success in solving problems for paper manufacturers; its advice and facilities are yours for the asking, without obligation.

Making friends . . . through performance and service . . . has been the *business* of Anheuser-Busch for more than a century.

CORN STARCHES **DEXTRINES GUMS**

Phone or write:

ANHEUSER-BUSCH, INC.

CORN PRODUCTS DEPARTMENT

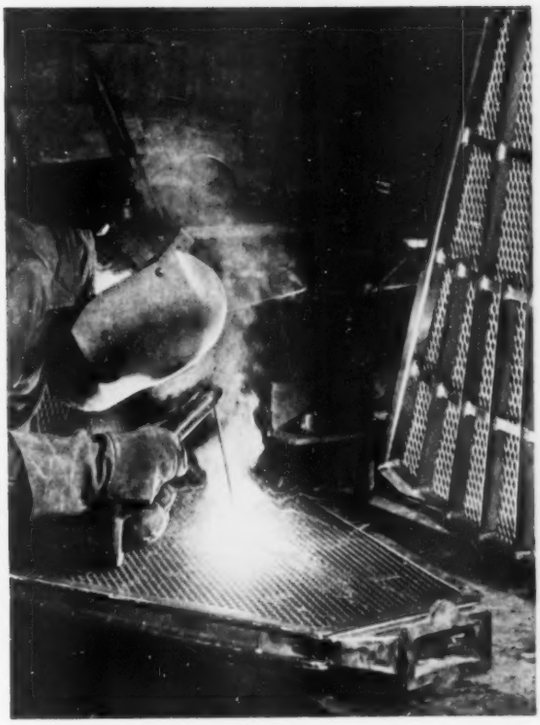
ST. LOUIS, MO.
721 PESTALOZZI

NEW YORK, N. Y.
33rd & 12th Ave.

Expanded Monel

Expands the Service Life

of filter sectors



Welder tacks expanded Monel backing mesh to frame of an experimental model pulp filter sector. Design finally chosen uses mechanical assembly. Some 400 have been installed in a large Canadian mill. They promise 400% longer service life than previous sectors using other metals.

Four years ago a large Ontario, Canada, paper mill started looking for better filter equipment service and greater economy.

Filters failed often and were costing too much to make and to repair.

Various combinations of metals in different fabricated forms were tried. And finally an assembly was developed which proved most economical . . . considering both first cost and length of service life.

The assembly . . . aluminum sector frame . . . and a backing mesh of .050 in. expanded Monel with ¼ in. x 1 in. diamonds. Backing and facing wire are attached with Monel strap and machine screws; no solder is used.

Why expanded Monel? Because expanded Monel has strength to withstand constant usage. It has corrosion resistance to withstand chemical attack.

Four hundred of these sectors have been installed. Some have been in service for over twenty months. No significant galvanic corrosion has occurred on the aluminum frames; all are still in excellent shape and promise *4 times more service life* than previously used metals.

Perhaps expanded Monel offers the answer to getting better service from equipment and more economical operations in your plant. Consult your Distributor of Inco Nickel Alloys for the latest information on their availability from warehouse and mill. Remember, too – it always helps to anticipate your requirements well in advance.

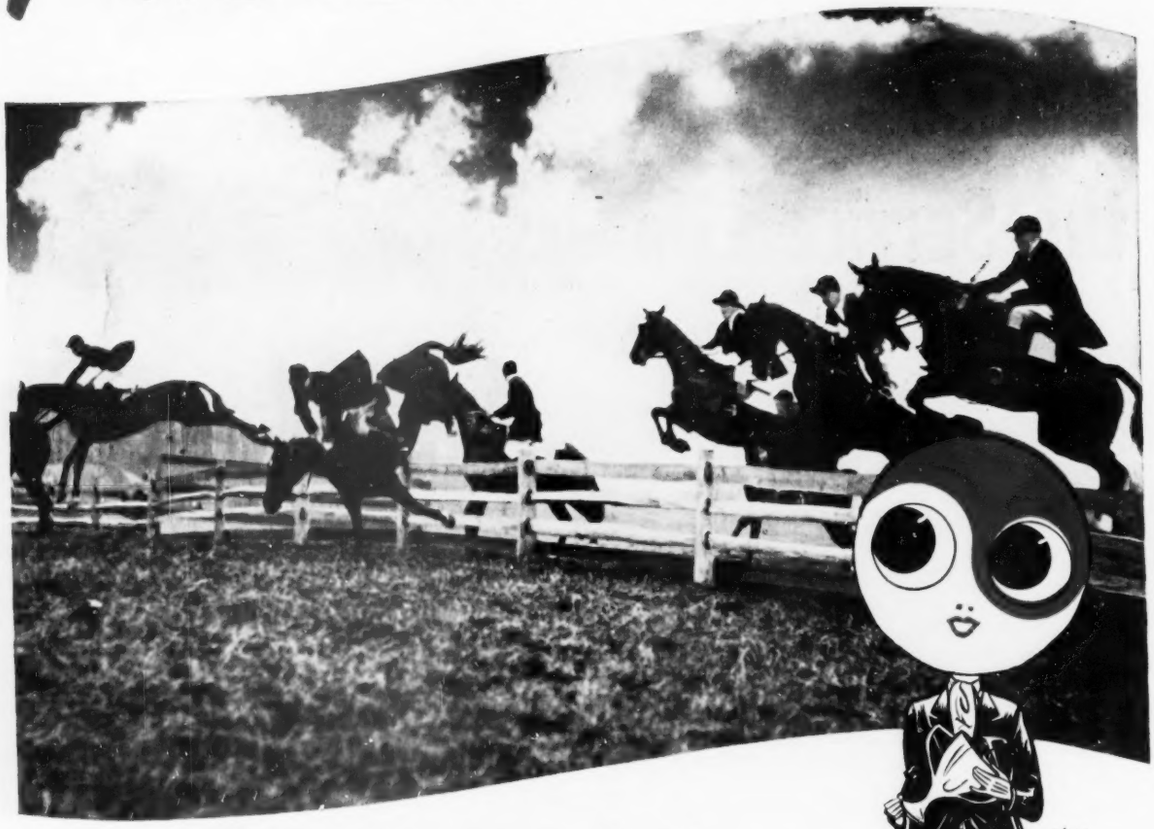
The International Nickel Company, Inc.
67 Wall Street, New York 5, N. Y.

INCO

Inco Nickel Alloys

MONEL® • "R"® MONEL • "K"® MONEL • "KR"® MONEL
"S"® MONEL • NICKEL • LOW CARBON NICKEL • DURANICKEL®
INCONEL® • INCONEL "X"® • INCOLOY® • NIMONICS®

Asten DRYER FELTS



Some do, some don't

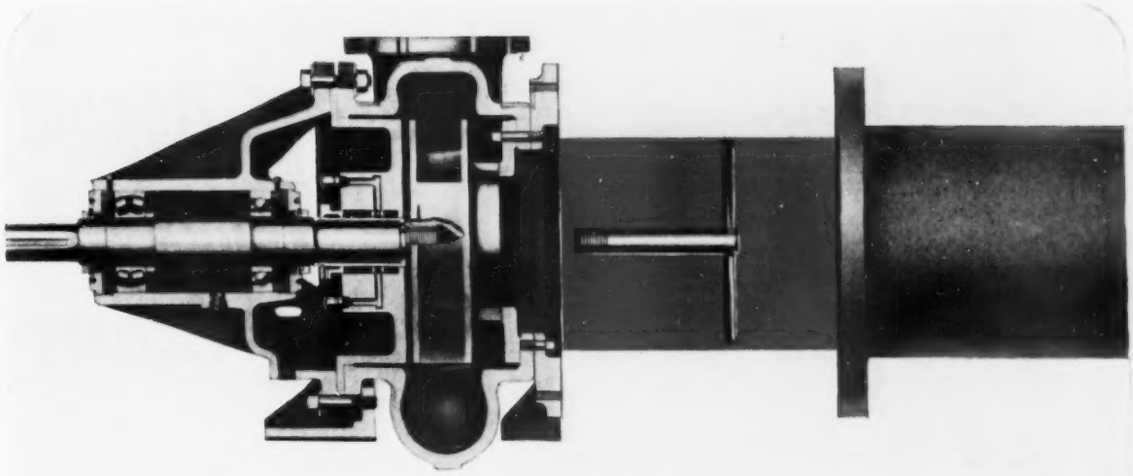
Papermakers have found that ASTENS can be depended on to take the toughest operating conditions in stride.

Economy in the long run

ASTEN-HILL MFG. CO.
PHILADELPHIA, PENNA.

ASTEN-HILL LIMITED
VALLEYFIELD, QUEBEC

Relieves Suction Problems in Pumping Heavy Stocks



PW Pump with 16 inch Suction + **Feeder Vane Assembly** + **Large Suction Piping**

STOCKS UP TO 6% HANDLED WITH EASE; HEAVIER STOCKS UNDER SOME CONDITIONS

YOUR SUCTION PROBLEMS in handling heavy stocks can be greatly reduced by the use of an Allis-Chalmers Paper Stock Pump with 16 inch suction opening. This means that you can take full advantage of the economy of handling stock at the highest possible consistence.

Increased NPSH

Allis-Chalmers has developed a paper stock pump with a full 16 inch suction opening for discharge openings from 4 to 12 inches. This means absolute minimum friction loss right up to the eye of the impeller. Available Net Positive Suction Head is increased. In addition, a feeder vane assembly is available to further improve suction conditions. The action of the feeder vane as it rotates with the impeller moves the stock into the eye of the impeller, increasing the NPSH at this critical point.

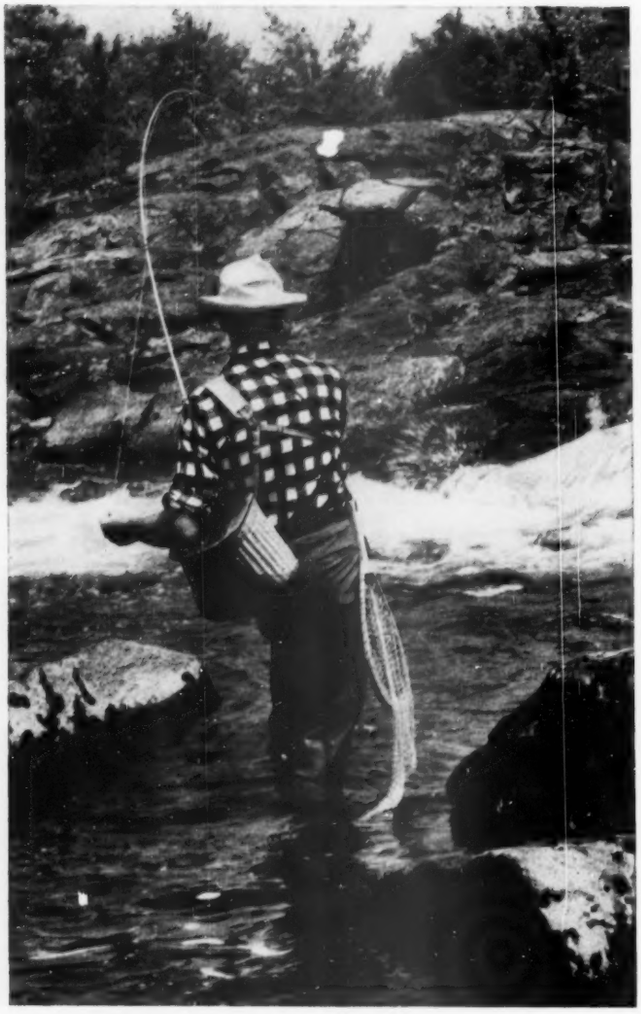
Handles 6% Stock

With the feeder vane assembly, this Allis-Chalmers Paper Stock Pump is successfully handling stock up to 6% consistence, and under favorable conditions even heavier stocks.

For information on how this pump can help you, and the assistance of an experienced paper mill pump engineer, get in touch with your Allis-Chalmers District Office or write for Bulletin 52B7112. Allis-Chalmers, Milwaukee 1, Wisconsin.

A-3905

ALLIS-CHALMERS



WIN A PRIZE in the Second Annual Tenax Fishing Contest

SPONSORED BY
LOCKPORT FELT COMPANY
FOR

Paper, Pulp and Paperboard Mill Employees

ANYWHERE IN THE U.S.A.

Knowing how many of you get great pleasure out of fishing, Tenax Felts are giving you something extra to fish for . . . 46 worthwhile prizes. We sincerely hope you will be one of the lucky ones to win a prize this year.

These Prizes must be won!

NATIONAL GRAND PRIZE
10 H.P. JOHNSON OUTBOARD MOTOR

For the fish nearest the weight of all-time record fish of same variety, as listed in FIELD AND STREAM RECORD BOOK.

15—1ST PRIZES ..... $100 SAVINGS BOND
(1 each variety of fish listed on official entry blank)

15—2ND PRIZES ..... $50 SAVINGS BOND
(1 each variety of fish)

15—3RD PRIZES ..... $25 SAVINGS BOND
(1 each variety of fish)

Get your entry blanks at your own mill now

See your bulletin board or ask your mill foreman for easy contest rules, official entry blanks and list of fish for which prizes will be awarded. Contest starts April 1—ends midnight, October 1, 1953. Get started early—because in this contest amateurs can win as easily as experts. First, second and third prizes will be awarded in *each* of 15 separate classes—for the heaviest of 15 different varieties of fish, from yellowtail to largemouth bass! In addition, you may win the National Grand Prize! *So . . . let's go fishin'!*

LOCKPORT FELT COMPANY • NEWFANE, N. Y.

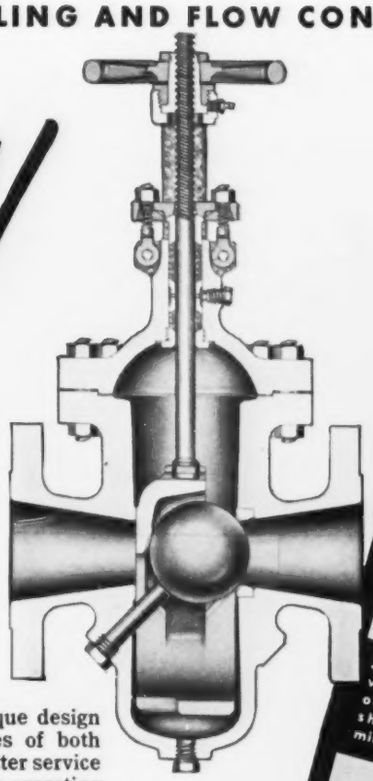
FOR SEVERE THROTTLING AND FLOW CONTROL SERVICES . . .

NEW

CRANE-PAUL
Venturi-Ball
VALVES

(Patented and Patents Pending)

CAST STEEL OR CRANE 18-8Mo ALLOY
Outside Screw and Yoke—Flanged. Available with sliding stem for assembly with power operators.



Fully closed with ball disc locked in outlet port. Ball seldom seats in same position, thus minimizing wear and erosion.
Smooth opening begins when ball cage "rolls" ball out of its seat. Crescent shape opening permits minute throttling.
Inclined surfaces in the cage lift the ball disc clear of the seating surface.
Fully opened with U-shaped bottom of cage bridging the gap in body to form a continuous flow passage.

Meet the Crane-Paul Valve—a unique design that combines desirable advantages of both gate and globe valves. It provides better service and longer life under more rigorous operating conditions than such valves normally stand. These features include—

Exceptionally accurate throttling with a minimum of wear and erosion, resulting in long-lived seating surfaces.

Straight-through, non-turbulent flow—with pressure drop characteristics approaching those of venturi-type gate valves.

Smooth, easy response throughout the entire range of operation.

Completely tight shut-off.

Heart of this new Crane-Paul Valve is a precision-ground ball disc which rides loosely in a cage direct-connected to the valve stem. In operation, the ball is moved to and from the center of flow and rolls into and out of the body seat. At no time during valve operation does the ball spin or chatter, even in closely throttled positions. It revolves just enough to provide a new seating surface each cycle. In the closed position, part of the ball actually protrudes into the outlet port where it is tightly seated by the wedging action of the ball cage.

Literature Sent on Request

Full information on this new Crane-Paul Valve is in your Crane 53 Catalog. Literature is available from your Crane Representative or on request to address below.

Cast Steel
150-Pound, Sizes 1 through 6"
300-Pound, Sizes 1 through 8"
600-Pound, Sizes 1 through 4"

Crane 18-8Mo Alloy
150-Pound, Sizes 1 through 6"
300-Pound, Sizes 1 through 8"

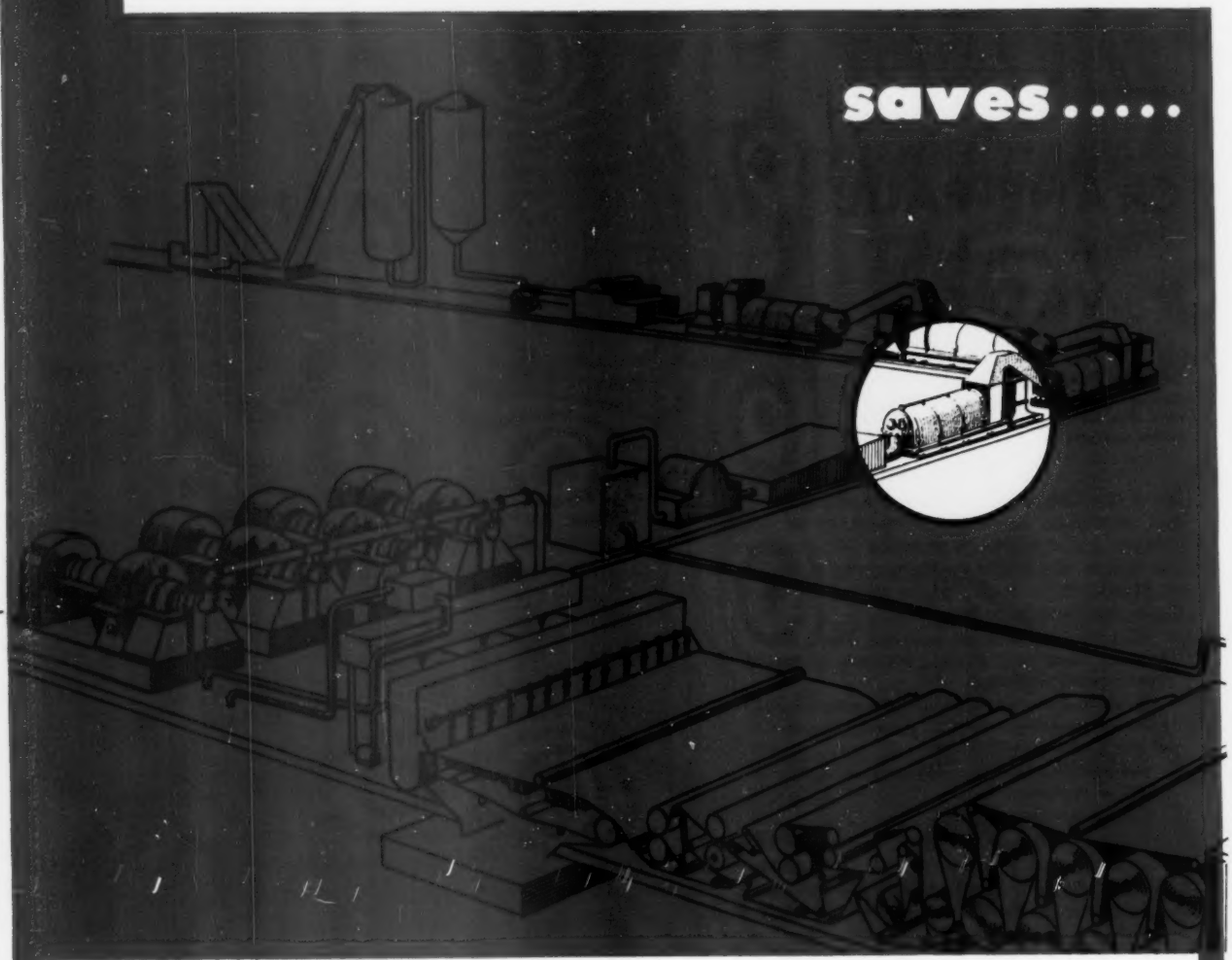
CRANE VALVES

CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Illinois
Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • PLUMBING • HEATING

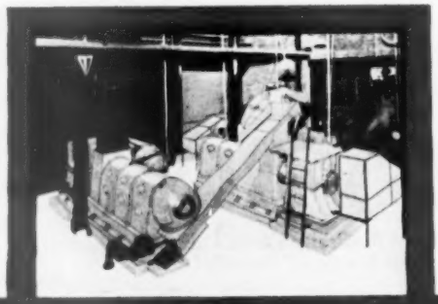
a LONG stride forward...

saves.....



Photomicrograph of diffuser washed kraft pulp.

Press units installed in leading southern kraft mill.



Photomicrograph of pressure washed kraft pulp. Note curling of fibers.

SUTHERLAND PRESSURE WASHING SYSTEM

.....chemicals, heat, water, power, space...

increases operating efficiency

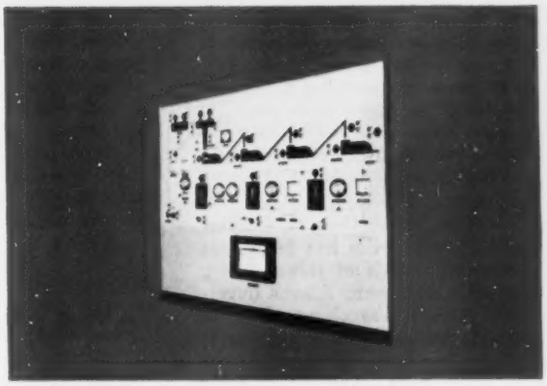
Based on a counter-current principle of washing in a series of specially designed presses, the *Sutherland Pressure Washing System* represents a real advance over other washing systems . . . real profit to the mill owner.

OPERATION

Pulp is pumped from a conventional blow tank at 3-5% moisture free consistency and thickened to twelve percent in an underpass thickener. Fed into the presses, it is alternately squeezed to about 36 to 38 percent dry and then diluted about 12 to 14 percent with liquor from the succeeding press. The strong liquor draining from the thickener is sent to the evaporators of the recovery system.

THE RESULTS:

1. *Water Consumption:* for a 300-ton system less than 200 g.p.m.
2. *Heat:* since pressure is used instead of vacuum, better blow-heat recovery results . . . evaporators get the black liquor at higher temperatures . . . no flashing of steam because of absence of vacuum.
3. *Power Requirements:* only 1.71 horsepower per air-dry ton for a four stage system.
4. *Chemical Recovery:* positive squeezing action insures uniform separation of liquor from pulp, higher yield. Even true knots lose much liquor in the operation.
5. *Pulp Quality:* intense rubbing action and pressure contribute to strength development of pulp. Positive curling of the fiber is a characteristic of pressure washed pulp.
6. *Space:* considerable space saving results from fact that presses are of compact design and may be arranged in a variety of ways to suit requirements of the individual mill. High consistencies and foam free operation obtained from system means that over-size transfer and settling tanks are not necessary.
7. *Control:* entire system is operated from a *single* panelboard, permitting easy adjustment of output to mill requirements.



Single Panel provides complete control of process for one operator. Audio and visual alarms signal operator instantly in the event of trouble.

THE ADVANTAGES OF SUTHERLAND PRESSURE WASHING SYSTEMS ARE BEING DEMONSTRATED EVERY DAY IN ACTUAL MILL OPERATION.

SUTHERLAND PRESSURE WASHING SYSTEMS CAN BE FURNISHED IN FOUR AND FIVE STAGES TO FIT THE NEEDS OF THE INDIVIDUAL MILL . . . AT A CAPITAL INVESTMENT APPRECIABLY BELOW THAT OF CONVENTIONAL SYSTEMS.

For more information, write for a copy of "PRESSURE WASHING" which presents a case history of actual mill experience.

SUTHERLAND, INC.

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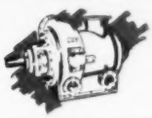


BREAKER TRAPS

HIGH YIELD SYSTEMS

Sold & Serviced by
SUTHERLAND REFINER CORPORATION

Manufactured by
VALLEY IRON WORKS CO.
Appleton, Wisconsin

SECRETARY McKAY REPLIES

GIVES *PULP & PAPER* HIS VIEWS ON ALASKA AND PARKS

Secretary of Interior Douglas McKay has written to PULP & PAPER expressing:

1. His "major concern" over the forest use programs in Alaska.
2. His private vs. public power views.
3. His National Parks policies.

The letter was in response to one which PULP & PAPER sent to Secretary McKay, enclosing the two lead editorials published in the January issue of this magazine, one welcoming the new Eisenhower administration, and the other, urging the appointment of Frank Heintzleman, Alaska forester for 34 years as governor of Alaska. His appointment has since been made, to the genuine satisfaction of his many friends in the pulp and paper industry.

In the "welcoming" editorial, PULP & PAPER said, in part: "In Gov. McKay, from the No. 1 lumber state, Oregon, Interior is headed by a man who has been long familiar with the needs of this industry and whose attitude toward Alaska development will have far-reaching effect on this industry's future . . . the Indians of Alaska will be, in effect, his wards. A past administration . . . instigated the Indians to throw road blocks in way of Alaska pulp industry development."

Here follows Secretary McKay's letter:

"Mr. Albert W. Wilson,
Editor PULP & PAPER,
1791 Howard St.
Chicago 26, Ill.

"My dear Mr. Wilson:

"Thank you very much for the two editorials from the January issue of the *Pulp and Paper* magazine enclosed with your letter of January 23. Time has not permitted a complete review of the work of this Department but I shall be glad to discuss the questions raised in your letter as they relate to matters under the jurisdiction of this Department.

"The national forests are under the jurisdiction of the Secretary of Agriculture and all matters relating to the future use of the timber from the national forests in Alaska should be discussed with the Department of Agriculture. This Department does have a major concern with all programs affecting the economic and social conditions in the Territory. Accordingly, it is intensely interested in any plans for the utilization of these national forest areas.

"The national forests in Alaska are capable, according to the U. S. Forest Service, of producing more than 1,000,000 tons of newsprint paper annually in perpetuity. Sites that will produce low-cost and abundant power are available for the development of the newsprint industry in Alaska. Thus, southeastern Alaska has an excellent opportunity of becoming a great papermaking region. Although pulp and paper might be the primary objectives of management, integrated timber industries should be encouraged to include sawmills, plywood plants, and minor woodworking industries.

"The development of power should be encouraged in the Pacific Northwest and Alaska in the general interest whether it is utilized by pulp or other industries, but whether it be developed as private or public power is a matter which should be worked out in cooperation with the local people. Insofar as possible, private and public power should be developed on such a basis that neither has an advantage over the other.

"With reference to your question relating to the national parks, the policies have been largely established by the Congress over a period of many years, beginning with the act creating Yellowstone, the first national park. I do not expect any major changes in these policies. The Act of August 25, 1916 (39 Stat. 535), establishing the National Park Service, specified the fundamental purpose of the national parks, which is

> '* * * to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations.'

"I am in agreement with that fundamental statement of purpose.

"Your expression of good wishes for success in my new office is much appreciated.

Sincerely yours,
(Signed) Douglas McKay
Secretary of the Interior."

ADAMS IS PRODUCT OF THIS INDUSTRY

SHERMAN ADAMS—he might have had preferred stock ownership in the paper industry . . . instead, he's Assistant President. He joined the Parker-Young Mill at Lincoln, N. H., in 1920, became Woods Supt., in 1923, but in 1940 he got into politics and that was end of the paper business.

The man who is going to see more of President Eisenhower, perhaps, than any other man in his official family in the next four years—Sherman Adams—one time thought his lifetime career was to be in the woodpulp and paper and lumber field of New Hampshire.

Mr. Adams is Mr. Assistant President, as is well known, and this means he will be the quiet but frequent advisor to Ike and will read most of his mail, and engineer the carrying out of his policies and projects.

Mr. Adams, who is now 52, was born in East Dover, Vt., son of a grocer. He graduated from Dartmouth and worked as clerk and log scaler in a logging camp in Southern Vermont. He became woods superintendent in 1923 for Parker-Young Co., a lumber and pulp enterprise at Lincoln, N.H.—now the Franconia Paper Co. The youthful Mr. Adams figured he had set his life course. And for 17 years more, it looked like that was it.

But Lincoln (pop. 1,500) town leaders persuaded him to run for the legislature in 1940. And so, a new life began for Mr. Adams at 40. The pulp and lumber workers of Lincoln, many of them Democrats, switched tickets to vote for him. Many worked under Mr. Adams. In 1944 he was elected to Congress and was elected Governor on his second try in 1948.

The Parker-Young Co., incidentally, was a fine little paper company, making high grade manilas and later, sulfite bond papers. It was along in the 1920's, possibly about the time Mr. Adams was woods superintendent, or soon after, a flood washed out the dam. Later, it was rebuilt, but the company never seemed to recover from the financial shock. In Oct. 1946 Marcalus Mfg. Co., a New Jersey paper manufacturer, took it over. Then, in 1950, it sold out to the new Franconia Paper Co.

It's probably anybody's guess what may have happened to our Assistant President if he had remained in Lincoln.

GIVE US MEN — AND IDEAS!

By Marvin W. Swaim
President, National Paperboard Association, and First Vice President, Alton Box Board Co.

(From his recent annual report to the association he heads. His picture on this page.)

MARVIN W. SWAIM, First Vice Pres. of Alton Box Board Co., and President of National Paperboard Association.

Ours is a comparatively young industry. It has grown fast and it has grown big. Our thinking in the past has been focused on increased production. The last war, with its shortages, caused us to center our thinking even more intensively on increased production. But now, as we continue to grow, we must turn our thoughts to increased uses of our production. *Fortune* Magazine. in its September issue, referred to paperboard as the bellwether of industry. That is flattering, but it also is frightening. Rather than to be the barometer predicting business cycles, I would prefer that we be the exceptional industry—the industry that continues to grow even when other industries decline.

Does top management of the paperboard industry face up to the fact that achievement of this objective is the inescapable function and responsibility of top management?

We are an industry, gentlemen, that has no limits placed upon it. No limits except those that we ourselves place upon it. Will we open the door and grab the opportunity to make our industry grow? I think we will. But how?

To answer that question, we in our organization like to think in terms of men, materials and machinery—*and the greatest of these is men.* This thought is not original with me. It comes from an early experience. It stems from an evening 30 years ago when I had the privilege of listening to a man for whom I had profound respect. He was speaking to a group of his associates. He told us this:

"You can take all of my factories away from me. You can take all of my materials. But if you'll let me keep this group of men—if you'll let me keep these men who are here with me tonight, I'll have all my factories and all my materials back again in 12 months."

And so I say to you if something were to happen today to take away our industry —to take from you all your plants and all your machinery, but to leave you your men, you would be in the same position as that man who won my admiration and respect 30 years ago. *You would have it all back in a very short time.*

The most important factor in your company is men. If all the men in your company were outside a fence surrounding it, what would you have left except brick, mortar and scrap iron?

There are no limits on the extent to which the paperboard industry can grow and progress *except those limits that we ourselves place upon it.* Top management of the paperboard industry, therefore, is faced with an exceptional opportunity.

Will these executives grab it? I am confident we will. But how? The answer, it seems to me, is men with vision, self-confidence, faith, and the courage of their convictions.

You know, gentlemen, the woods are full today of talk about security. But too much of it is *negative* talk, such as, "Opportunity is dead." "There are no more frontiers." "Give us security."

The kind of talk you want to hear and I want to hear is *positive* talk about opportunity, because we make our own security. No one can give it to us. Make the best of our opportunities and our individual security is assured. This is easily said, but many times it is helpful in finding the answer to get a six-foot mirror and take a good look at ourselves. Then we should ask the simple question, "What are we doing about it?"

Your company and my company thrive on ideas. I'll go farther than that: Your company and my company survive on ideas.

Ideas aren't always original. We get them from our many contacts with other people in all kinds of businesses and industries and professions. Is top management getting all the ideas it should and then putting them to work? If and when we do, we will again be thinking about more production.

Because *you* are successful, it follows that you have surrounded yourselves with men of self-confidence, faith, and the courage of their convictions. But do they have the necessary vision to bring to you all the ideas that you can develop and utilize in the growth of your company?

And right here, maybe I can leave a thought with you: WHY STOP WITH YOUR OWN COMPANY?

Not long ago I heard about the work that's being done by the Sinclair Oil Co. through its research foundation. Briefly, they solicit inventors to present any patentable ideas to their foundation, where they are reviewed with the hope that they will be able to find even one idea that can be developed and utilized. Last year they had 6500 ideas presented to them, out of which they sorted 100 worthy of complete investigation. They are now doing that investigating. If only one proves successful, the program is profitable.

Why confine paperboard thinking to X number of men in our own industry? Why not tap the ingenuity of all the people in America?

I'd like to see spread across the face of America a great big sign that reads, "MEN WORKING." . . . Men working for the paperboard industry. Men with the courage of their convictions *and vision* who will "carry the message to Garcia."

In times like these I join that American editor, Josiah Holland, who wrote these words one hundred years ago:

> "God give us men! A time like this demands
> Strong minds, great hearts, true faith and ready hands;
> Men who can stand before a demagogue
> And damn his treacherous flatteries without winking!
> Tall men, sun-crowned, who live above the fog
> In public duty and in private thinking! . . ."

And so I say to you: What are you doing to develop ideas and then transform those ideas into realities which create added markets for paperboard?

We can help ourselves by helping each other and at the same time we can help our industry. There is work to be done and we have got to do it!

Wages Reduced 1%

Wages and salaries of all employes of The Gardner Board and Carton Co. were reduced one percent Feb. 1 in accordance with the company's cost-of-living plans. The reduction will also affect employes of Manchester Machine Co., Middletown, O., a Gardner-owned firm.

According to President E. T. Gardner, this will reduce wages of hourly-paid employes about one and one-half cents an hour. The plans increase or decrease wage and salaries every three months according to the Bureau of Labor Statistics index for the Cincinnati area. The figure was 190.8 for December, latest month on record, a drop of 1.2 percent.

President Gardner added, "Even with this reduction, wage increases since Jan. 1950, average almost 30 cents an hour, much higher than the national average."

New Finishing Room Equipment at Natchez

Henry Fairburn, general manager of Lamb Grays Harbor Co., Hoquiam, Wash., said cutters, layboys and a specially designed "air-float" pulp conveyor which eliminates several steps in handling of pulp has been delivered to the International Paper Co. mill at Natchez, Miss., for the present project doubling dissolving pulp production there. It was a $500,000 order, he said.

George Lamb, president, was at Natchez directing installations.

Complete pulp finishing room equipment is also being built for the Borregaard mill at Sarpsborg, Norway, and for Howe Sound Pulp Co., Port Mellon, B. C.

THE INSTITUTE'S BIGGEST REUNION EVER!

THE INSTITUTE OF PAPER CHEMISTRY, Appleton, Wis., staged its biggest reunion on record at PAPER WEEK in New York in February. Nearly 100 are in this picture, including more than one-half of the graduates which it has sent out to many mills and companies—far and wide—and many of these now hold key positions.

Here's the 1953 Reunion at the Lexington Hotel. First, we have identified those in the outside, or head table seats, starting at top left and going around the headtable clockwise. Then we have "zig-zagged back up through the middle rows, from bottom to top. Nos. 1 to 31 are clockwise from top left around the outside to lower left:

1. B. L. Browning, The Institute of Paper Chemistry; 2. B. F. Shema, Institute; 3. C. N. Betts, Sonoco Products; 4. C. R. Calkins, Riegel Paper Corp.; 5. J. W. Dappen, Scott Paper Co.; 6. S. T. Moore, American Cyanamid; 7. W. H. McPherson, Jr., Minnesota & Ontario Paper; 8. P. E. Nethercut, Scott Paper; 9. J. C. Tongren, Hammermill Paper; 10. R. W. Brown, Hammermill; 11. H. D. Fisher, Scott; 12. M. L. Downs, Thilmany Pulp & Paper; 13. S. I. Kukolich, Lee Paper; 14. W. F. Holzer, Crown Zellerbach; 15. Westbrook Steele, President, The Institute; 16. H. F. Lewis, Dean, The Institute; 17. J. C. Wollwage, Kimberly-Clark; 18. E. R. Laughlin, Du Pont Co.; 19. H. W. Bialkowsky, Weyerhaeuser; 20. J. P. Weidner, Container Corp. of America; 21. R. P. Whitney, The Institute; 22. E. J. Jones, Celotex Corp.; 23. A. J. Karpinski, Scott; 24. J. R. Curtis, Scott; 25. W. H. Aiken, Gardner Board and Carton; 26. J. G. Strange, Vice President, The Institute; 27. G. W. Ingle, Monsanto; 28. F. W. Sanders, Eastern Corp.; 29. C. E. Johnson, Brown and Bigelow; 30. J. d'A. Clark, Consultant; and 31. H. W. Verseput, Robert Gair Co., Inc.

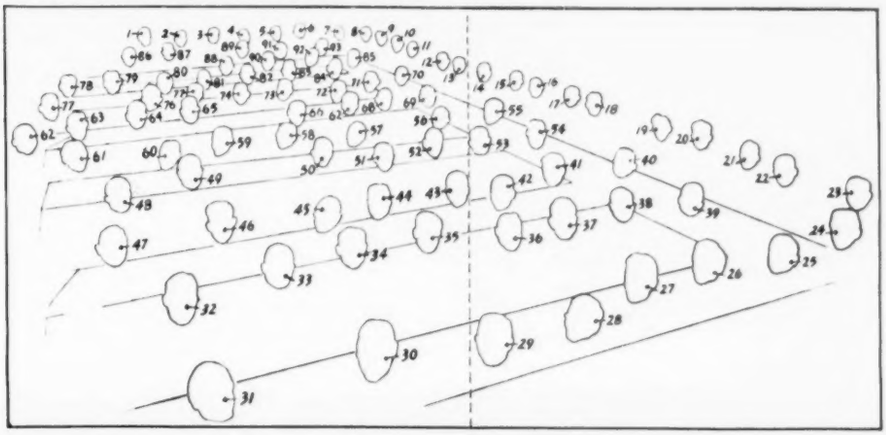
Nos. 32 to 39 is group facing lower outside group: 32. J. K. Appledoorn, Esso Laboratories; 33. A. J. Haug, Scott Paper; 34. W. R. Csellak, Gardner Board; 35. L. R. Ayers, Robert Gair; 36. J. E. Atchison, Portorican Paper Products; 37. J. C. Redd, Mead Corp.; 38. K. A. Arnold, St. Regis; and 39. A. P. Adrian, Neenah Paper.

Nos. 40 to 47 is third row from front, but starting from right: 40. H. Y. Charbonnier, Union Bag & Paper; 41. K. D. Hay, Asten-Hill; 42. R. M. Elias, Bergstrom Paper; 43. J. L. Ham, American Box Board; 44. D. R. Cushman, Socony-Vacuum; 45. W. W. Marteny, National Container Corp.; 46. S. R. Parsons, Consolidated Water Power & Paper; and 47. G. H. Sheets, Mead Corp.

Nos. 48 to 54 is the fourth row from front, but starting from left: 48. H. A. Smith, Mead Corp.; 49. P. R. Wiley, West Virginia Pulp & Paper; 50. A. T. Luey, Sutherland Paper; 51. W. S. Grimes, Ahdawagam Paper Products; 52.

W. A. Schenck, Riegel Paper; 53. F. T. Ratliff, Personal Products; 54. K. W. Max, Robert Gair.

Nos. 55 to 61 is fifth row, but starting from right: 55. D. S. Brown, Gardner Board and Carton; 56. H. P. Dixson, Fox River Paper Corp.; 57. M. B. Pineo, Brunswick Pulp and Paper; 58. C. M. Koon, Oxford Paper; 59. T. C. Zentner, Gardner Board; 60. J. C. Leech West Virginia Pulp & Paper; 61. W. E. Carlson, Whiting-Plover Paper.



Nos. 62 (he is at end of table) to 69 is sixth row, continuing around table from left: 62. J. W. Swanson, The Institute; 63. R. L. Leaf, Jr., Shawano Paper; 64. J. E. Jayne, Kimberly-Clark; 65. W. M. Van Horn; The Institute; 66. K. W. Britt, Scott Paper; 67. D. J. MacLaurin, The Institute; 68. A. M. Heald, Scott; 69. A. S. Ersp umer, St. Helens Pulp & Paper.

The remainder—Nos 70 to 88—are identified by same pattern, starting at right and zig-zagging to top: 70. W. R. Haselton, Rhinelander Paper; 71. C. E. Ingram, U. S. Army; 72. C. B. Sitterson, The Institute; 73. J. J. Perot, Flintkote; 74. J. G. Turk, Glass Container Mfgrs. Institute; 75. S. P. Moore, Scott Paper; 76. J. J. Harrison, Michigan Carton; 77. D. O. Adams, Bird & Son; 78. P. B. Hansen, Bergstrom Paper; 79. J. W. Shimp, Jr., Scott; 80. J. J. Yirak, Union Bag; 81. R. E. Kremers, The Institute; 82. A. P. Yundt, Camp Mfg.; 83. E. T. Turner, Jr., Gardner Board; 84. J. E. Ward, Nopco Chemical; 85. E. O. Bryant, Ecusta Paper; 86. W. D. Harrison, Riegel Paper; 87. L. V. Forman, Scott; 88. J. A. Van den Akker, The Institute; 89. E. J. Kane, Thos. J. Lipton, Inc.; 90. W. J. Foote, Consolidated Water Power & Paper; 91. A. L. M. Bixler, Riegel; 92. W. D. Boggess, Beveridge Paper, and 93. C. H. Krebs, Atlas-Boxmakers, Inc.

PAPER WEEK - - 1953

SOME NEW PROBLEMS WERE AIRED THERE

Right smack in the middle of Manhattan—in that hive of plush hotels and skyscrapers from about 42nd to 50th, on each side of Park Avenue—there is quite little swarming that takes place every third week of February.

Where else in the world could over 4,000 pulp and paper executives, salesmen, technicians, engineers and other specialists settle down so inconspiciously and comfortably than in that spot in Manhattan?

Now that Paper Week of 1953 is over, those 4,000 who attended are back at their normal occupations, and sometimes, like Buddha, they probably ponder over what it was all about. And they probably have got 400 different ideas of what were the important things that came out of this last Paper Week.

For several hundred top executives in mostly star chamber sessions at the Waldorf (they are registered but never completely), there was cool, calm optimism about 1953, and not much speculation about 1954. This feeling was shared by the salesmen—there were 1,700 at their big luncheon and several other smaller meetings were on at the same time.

AT PAPER WEEK EVENTS 1953—TOP L. to R.: GEORGE PRINGLE, Vice Pres. of The Mead Corp., and new President of TAPPI; JAMES R. LIENTZ, Manager, Pulp & Paper Div., Union Bag & Paper Corp., Chairman of TAPPI's Chem. Engineering Committee and Exec. Committeeman; WM. F. HATHAWAY, Gen. Supt. Kalamazoo Veg. Parchment Co. and another TAPPI Exec. Committeeman; KARL O. ELDERKIN, Vice Pres. and Gen. Mgr., Bowater Southern Paper Corp., and new Vice Pres. of TAPPI, and SYDNEY FERGUSON, Chairman, The Mead Corp., and President for second term of APPA.

LOWER ROW L. to R.: MARVIN W. SWAIM, Exec. Vice Pres., Alton Box Board Co. and President, National Paperboard Association; GORDON SINGLETARY, Plant Mgr., Brunswick Pulp & Paper and President, Superintendents Assn.; KEN GEOHEGAN, Vice Pres., Howard Paper Mills and retiring Pres. of TAPPI; WILLIAM J. TILDEN, Vice Pres., Mead Sales Co., and retiring President, Salesmen's Association, and ALLEN ABRAMS, Vice Pres., Marathon Corp., and TAPPI luncheon speaker.

COMMODORE TREADMILL

Down at the Commodore there was that "treadmill" on the ballroom floor—all day long for four days a happy hunting ground for 2,000 operators, technicians, suppliers. And there were the many meetings where corrosion problems, new developments in semi-chemical pulping, the young sciences of the corrugated container field, and other technical developments met verbal tests. Highlights of these events are recorded elsewhere in this issue.

Western world defense, increasing importance of pulp and paper, government and business, tariffs, reciprocal trade agreements, European assistance, wood supply, the potential trends in Canada to higher paper grades—there was much discussion of these subjects at the Waldorf, privately and otherwise.

Everyone was optimistic in a restrained way. Maybe it was the longer viewers who said, "but we have our work cut out for us," the end of the excess profits taxes will mean industry is going to have to show its true worth, and real salesmanship is going to pay off in 1954. A hard look at costs and at efforts to create more paper use—these were popular subjects being batted around not only at the Waldorf but also at the Commodore. Not mentioning any names but one observer said: "We'll know when we come back next year who are the really good presidents, executives and operators."

WHAT LONG-LOOKERS SAW

Anyone who was really looking for a significant characteristic at Paper Week could not avoid observing that a small but well-experienced number of "long-lookers" wanted to talk about the tremendous stature that North American pulp and paper has assumed in the world today and their vital importance to the defense of the western world. Twenty years ago overseas nations had seven-eighths of the pulp commerce in world market; today North America ships more pulp overseas than all others in that world market. It is one thing, however, to recognize the importance of pulp and paper to the defense of "the West" but it is another thing to have our resources and mills in readiness if that unsought emergency comes to pass, remarked a spokesman for one of the biggest factors in the industry.

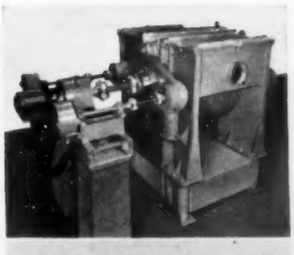
Another subject of top billing in Paper Week discussions—mostly in discussions off the floor—was that of Canadian and American industry relations, inextricably woven into basic U.S.—Canadian relations because of the importance of this industry in both countries. Robert Fowler, president of CPPA, as usual, led a distinguished Canadian delegation to Paper Week, and he and others from the north side of that faintly demarked border have spoken more than once of lowered tariffs and wiping out of whatever border fences do remain. He said "we are with you 100% in anything that is fair and just," and that can be said to also dominate the thinking of the American industry leadership.

RECIPROCAL TRADE

The opening of the Reciprocal Trade agreements hearings in Washington just four weeks after Paper Week was in many minds. An American paper industry could not help to be cognizant of the fact that it was possibly more vulnerable to foreign competition than any other as it already creates more foreign exchange than any other—$900,000,000 annually. Pulp and news have been free these many years and one leading pulp producer remarked: "We made ourselves strong without any tariffs, why should paper need them."

No one seemed too concerned over lowering of tariffs between the U.S. and Canada in the long run, especially if it would tend to strengthen North America and if it were to be done very gradually and if it did not lead to any brutally painful shifting of grades—one suggestion was a 5% decrease in tariffs annually over 20 years. And more than one American producer suggested it should be a two-way street ad that all barriers should be lowered—pointing to the already high Canadian paper tariffs and also the Canadian barriers against shipment of pulpwood to the U.S.

Because the American industry has reached adulthood and the Canadian industry has much new ground to break, it was thought by some that in the long run —say, 20 years from now—the U.S. has more to gain than Canada by a lowering of these tariffs, quotas, exchange restrictions and other barriers, providing it is done very slowly, providing the new Re-



1 SCREEN or 16?

ONE BIRD VIBROTOR SCREEN

equals the performance of as many as sixteen ordinary pulp screens, yet takes up no more space than one old type screen and uses only ⅓ HP or less per ton.

Why not find out what the Bird Vibrotor Screen with slotted, undercut screen plates can do on hard kraft and on semi-chemical pulps; with double dilution systems; on paper stocks that cannot otherwise be put over the machine wire and made into salable paper.

BIRD
MACHINE CO.
South Walpole
Massachusetts

ciprocal Trade Agreements have adequate protective clauses.

Over the next 10 years or 20 years—no industry appears to have a brighter outlook than North American pulp and paper. Ted Tinker, executive secretary of APPA, said so at more than one affair of Paper Week, and others who heard him were well aware this was based on the healthy longterm picture that industry shows on anyone's chart.

There was a great deal of discussion over what the industry should plan for as a basis for successful future operation.

Clark Everest, chairman of Marathon, who has made many an analysis for this industry, told PULP & PAPER during Paper Week. (And he characteristically never hesitated to put it on the line for direct quotation), that this industry should gird its loins to be in a position to operate at 85% capacity profitably if necessary. Cola Parker, president of Kimberly-Clark, said the big job ahead was to show the world how to use more paper. And George Olmsted Jr., president of S. D. Warren & Co., came back more convinced than ever of his theme of the past year's meeting (he was early in expressing it)—that shrewd merchandising is the key to the future for this industry.

The general good spirits that pervaded Paper Week because of the new administration in Washington probably should be mentioned. The theme of "trade not aid" in Washington was causing concern along with the trade agreements, but some of the top figures in the industry thought this a policy that could be intelligently carried out without damaging effects.

Sydney Ferguson, re-elected APPA president and Mead's chairman, told the Association of Pulp Consumers, Inc., that "in my judgment we are in for a good year of business and the pulp consumers will get their share." But what he left unsaid at open meetings indicated he was—like others—thinking more sharply about what should be done in 1954.

HIGH AND LOW POINTS

There were, of course, meetings for everyone, but perhaps the high and brightest point of Paper Week was the Open Meeting on the Starlight roof, now become a tradition. Over 500 attended. Another high point was the Forest Policy evening meeting, which brought out about 100 and twice the expected number, showing the longterm thinking that is developing. This meeting is reported in our PULPWOOD SECTION.

If there were any low points about Paper Week it might be the very bad luck which a few groups had in luncheon and dinner speakers from outside the industry, whose presentations were hardly a great compliment to the intelligence of their audiences. It will forever be a cause of wonder to many who attended the 76th annual dinner of the APPA in the Waldorf's grand ballroom that Senator Homer Capehart of Indiana felt he should have to sell free enterprise to an audience that already was sold on it.

But APPA definitely did itself proud at the Open Industry meeting with Mr. Ferguson and his first vice president of APPA, Don Leslie, Hammermill's vice president, doing the formal honors, and three significant messages being delivered by Ernst Mahler, retired executive vice president of Kimberly-Clark; Richard A. McDonald, former Crown Z executive v.p. and operational organizer of the new East Texas Pulp & Paper Co., and Dwight J. Thomson, v.p. for industrial and public relations and third generation in Champion Paper & Fibre Co. management.

"DANGEROUS MINDS"—WARNS MAHLER

Born in Germany, a descendant of papermakers, Mr. Mahler, who is now chairman of the Cellucotton subsidiary of K-C, said: "If we can get our share of properly trained and oriented young men, all our other problems will be solved. He gave a kaliedescopic picture in words of the unsolved problems—the very components and potentials of fibers and wood, many pulping and other chemical and physical reactions. He said "the worst competition the pulp and paper industry has is its own ignorance."

"Research can knock the best laid plans of management into a cocked hat," said Mr. Mahler, and he quoted his oft-quoted Wisconsin colleague, Mr. Everest: "If management is not disturbed by research it is in a dangerous frame of mind."

McDONALD LAYS IT ON LINE

Dick McDonald, just stepping down from his Washington post where he headed up the entire National Production Authority, really laid it on the line regarding his views on business cooperation with government. He said:

"There are a lot more efficient men in Washington than you might think. Unless you are ready to cooperate, President Eisenhower can't succeed. We should lend-lease our junior executives and dollar-a-year men to government and not wait for a war to do so, and do this on a revolving basis so we have a trained reserve personnel. He predicted the Department of Commerce under Secretary Weeks and Under Secretary Williams would become "a true agency of business."

He said the industry advisory committees in Washington were created and aimed to supplant industry associations because of trade practice laws that association work ran afoul of. He urged associations in the industry to "understand their true functions" as information media and to help locate government personnel. He stressed that this industry must understand fully the consequences of the Sherman and Clayton acts in association activities.

On the other side of the ledger, he said business often "was a victim of the Big Lie technique—it was accused of collusion whenever two business leaders got together." He also urged an end to "witch hunts" in Washington and "agency 'laws' beyond the intent of Congress."

How should Mr. McDonald's ideas on cooperation in Washington actually be carried out? PULP & PAPER interviewed two industry men who have had long recent experience in Washington who had heard his talk—they said this plan is now being worked out in the national capital and the expectancy is that there would or should be at least two men there at all times, when there is no emergency. Each should serve for at least six months. One industry man is not enough, they said, and he needs another one for their mutual "good morale."

ERNST MAHLER **HARRY MOORE**

ERNST MAHLER (left), former Exec. V. P. of Kimberly-Clark and still a Director and Chairman of its Cellucotton subsidiary, came out of his semi-retirement to warn his colleagues at Paper Week in New York to beware of being complacent about research. With the right quality of men in research and management, he saw no unsurmountable problems ahead for this industry.
HARRY MOORE (right), President of Beloit Iron Works, who was re-elected President of the Machinery Mfgrs. He told top management audience in the Waldorf that they could avoid serious bottlenecks and poor planning of future needs if there was closer cooperation with machinery builders. He predicted news and kraft machines of over 2,000 fpm.

DWIGHT THOMSON **MERRILL SCHEIL**

DWIGHT J. THOMSON (left), Hamilton, O., Vice Pres. and Director of Industrial and Public Relations for Champion Paper & Fibre Co., and third generation in management of that company, told top mill executives in New York to act now in setting up good community relations before a misinformed public may later force hasty and costlier action.
MERRILL A. SCHEIL (right), Milwaukee, Wis., who has directed extensive research in corrosion for A. O. Smith Corp., builders of digesters, and at New York he unveiled a new anti-corrosive material for digester linings—Hastelloy F—already used successfully in sulfite pulp digesters. (Made by Haynes Stellite Div., Union Carbide & Carbon)

COMMUNITY RELATIONS

The third and final speaker at the Open Meeting, Mr. Thomson, spoke in place of his cousin, President Reuben B. Robertson, Jr., who had gone to Germany as captain of a team of business men who will report back on export of American dollars. The thorough manner in which Champion cooperates in community affairs in mill towns, encourages its own staff to take part, and other forward looking community policies of his company were in-

ACROSS A THIN STRIP OF PAPER
slightly less than three-fourths of an inch wide, moves the
via teletype—in Government agencies, the Armed Forces,
business offices and plants throughout the U.

Teletype tape called for a carefully engineered pulp that would meet many requirements—tensile strength that would resist tear yet not wear out the perforation pins . . . a minimum of fuzz and lint . . . the right amount of oil impregnation for speedy movement through the machines.

Engineered papers require the *right* pulps.

Coming up with the *right* pulps for special papers is a job the experts of our Technical Service Division have been doing for more than half a century. If you have a paper problem, perhaps they can help you, too.

Write to Dept. PC-4 in our Boston office.

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CLIFF CRAWFORD (left), President of Black Clawson Co., and its various divisions, headed a delegation of more than a score of B-C men into New York for Paper Week, and his biggest project of the week was opening up the new office in New York at 250 Park for the Black-Clawson companies.

terestingly described by Mr. Thomson. A big job in communities is to be done, he said. He told how Champion has three men in this work at the home office with staffs at each mill.

"We are in a similar position in relation to the public as we were with employes 25 years ago," he said.

In the last issue of PULP & PAPER were shown views of Paper week's Community Relations Exhibits.

The 5th annual Consumers Association luncheon was one of the well-attended events of the week and its guest speaker, Ralph S. Damon, TWA president, who has flown, built, sold and operated planes, painted a glowing picture of future air transport, predicting all long haul passenger service will be by plane before many years. He observed air travel is now only 4 c to 6 c per mile and any airport in the world is less than two days from the U.S. His audience, including President Dave Knowlton of the association and of Knowlton Bros., was particularly interested in his remark that 1,600 pieces of paper were consumed in sending one plane from New York to Bombay in records, etc.

President Fowler of Canadian CPPA said "while from the Canadian standpoint, this year 1953 might not be one of the greatest, it ought to be very good indeed."

The report that the new secretary of the Association of Pulp Consumers, Reed R. Porter, made earlier that day on market pulp of the future was published, almost completely, in the last issue of PULP & PAPER.

PULP PRODUCERS EXPAND

On the same day, James L. Ritchie, executive director of the U.S. Pulp Producers Association, made his report. He told that body that paper and paperboard purchases in 1953 "may be more cautiously in line with consumption requirements than they have been in 12 years, but this could be all to the good."

He said pulp capacity will continue to increase at the rate of 1,000,000 tons a year through 1955 and this requires "progress in production sales in order to maintain past operating rates." But he predicted a sharp improvement in the level of market pulp consumption, both in the U.S. and abroad. He predicted a firm demand for market pulp and possible extremely heavy movements in the second quarter this year.

Interesting Paper Week development in this group was its broadened base and increase in directors from 16 to 20 through a new association by-law. New members were Gabe Ticoulat of Crown Z, Mr. Olmsted of Warren, John Stevens Jr. of Marathon and Walker Hamilton of Riegel. These companies had been represented on earlier boards but the total number were increased and the million tons of new production had brought into the association six new members just the past year.

The Sulfite Paper Mfgs. Association, with Don McCall, of Racquette River Paper, reelected president, heard Mr. Tinker speak enthusiastically of the "renovated atmosphere" in Washington and of Secretary Benson's budget cutting order that Mr. Tinker said also involved the cutting of Forest Service expenses.

EXPANSION ILLUSION

Mr. Tinker explained the growth of the pulp and paper industry in U.S. since 1950 under certificates of necessity has actually been under the preceding 15 years average, "but the certificates dramatized growth and created an illusion that the industry might be growing too fast."

He said while there were 11 per cent less orders in 1952 and shipments were down 9.7 per cent from an alltime record year, no other industry has a brighter future.

On all sides it was felt industry operation will run high, though below the record highs. Mr. Everest's "85% rate with

QUOTABLE QUOTES of Industry Leaders

SYDNEY FERGUSON, president, APPA: "One criticism of the paper industry in the past has been that it over-expanded—today this is fashionable, and those industries which are progressive enough to provide sufficient capacity, not only for the immediate but also the anticipated needs of their customers (and prospective customers), are placed on the high pedestal now known in the financial world as 'growth industries.' We still have a vast undeveloped field in new uses for paper and paper products which, in alert, industries such as ours, are ever being sought through applied research."

DWIGHT J. THOMSON, vice president and director of industrial and public relations, The Champion Paper and Fibre Co.: "We have a job ahead that involves not only being a good neighbor in our plant communities, but also having everyone in those communities actively think so well of us that they are willing and proud to say so. Now is the time to promote good community relations rather than hold back until sometime when we may be forced into situations by a misinformed public, at which time the cost may be a staggering one."

ERNST MAHLER, director and retired former executive v.p., Kimberly-Clark Corp.: "If any management feels that research is not a disturbing element, it is then in a dangerous state of mind. It has developed an ostrich attitude which may lead at any time to very dire consequences. And just as we must guard against the adoption of an attitude of complacency within our own companies, so must we guard against the adoption of an atmosphere of complacency as an industry."

D. C. EVEREST, president, Marathon Corp.: "For the first time over a period of several years, in all grades of pulp, we will have an adequate supply on the North American continent even if shipments from Europe are reduced materially. This has come about not only through the building of new facilities, but also through the increase in productive capacity in the older established pulp mills by rehabilitation and the adding of digesters. The introduction of semi-chemical plants and modifications of that process have added considerably to available supply."

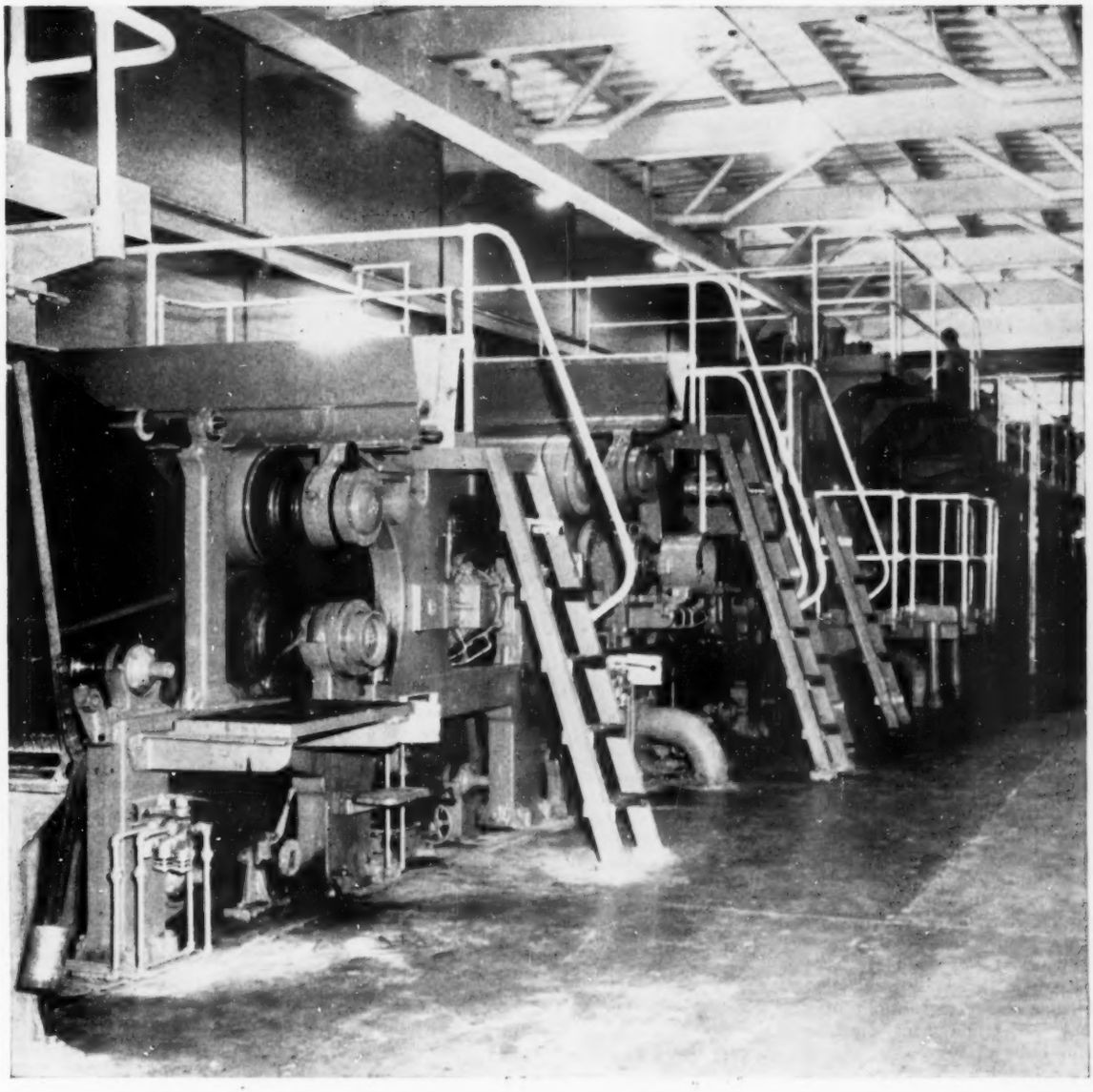
HENRY J. PERRY, director, Waste Paper Utilization Council: "The use of waste paper is one of the greatest of our forest conservation measures and if we cannot continue to increase its use and value as a papermaking material, we have to raise our pulpwood cut by at least 50% to compensate for its loss. We must accept and preach a philosophy that waste paper is a secondary source of cellulose fiber—so valuable that at least half of our industry depends upon it as a raw material."

R. A. McDonald, director, Crown Zellerbach Corp. and organizer of East Texas Pulp & Paper Co.: "Our long-term security as a nation, the leading free nation of the world, depends on two things: Strong industry and strong government. Industry must remain free and competitive and government must be composed of the strongest individuals available to keep it that way."

E. W. TINKER, executive secretary, APPA: "It seems clear that the new administration is definitely inclined to adopt something of a free trade philosophy. The pulp and paper industry, being already the largest contributor to foreign exchange, and being particularly vulnerable to further tariff cuts, can well view with concern the potential impact of such cuts on its future well being."

M. C. DOBROW, executive secretary, Writing Paper Mfgs. Assn.: "A fundamental basis for optimism is the large growth in population and continued expected growth. By 1960, it will be 180,000,000. From 1940 to 1960 our population will have increased by 48,000,000—a gain of 37%. This will continue to create demands for paper, such as has never been experienced before."

COLA G. PARKER, president, Kimberly-Clark: "Operating conditions in the corporation's United States mills are presently quite favorable, with the demand for book paper being somewhat in excess of capacity. The demand for wadding products is at a level, which, if continued, may require an increase in Kimberly-Clark's wadding production in the near future."



A 1952 Engineering High Light

The smooth trouble-free everyday operation of the presses here shown typifies the highly satisfactory performance of National Gypsum's entire installation at their new Pryor mill.

The design, erection and fast start up of this outstanding new paper board preparation and forming unit was one of the Industry's high lights for the past year.

Preparation system by Shartle, Middletown, Ohio

Paper Machine by Black-Clawson, Hamilton, Ohio

BLACK-CLAWSON

THE BLACK CLAWSON COMPANY • HAMILTON, OHIO

profit" was considered a very safe margin and it was expected the industry would continue well above that figure. There were some shrewd comments made to PULP & PAPER on ratios, as one man said a change in grades or weights could be more important than a drop or increase in operations rates, as they have been publicized. And one speaker at the Sulfite lunch noted the "misuse of statistics" when a company points to an increase in volume as a sign of success though it might be doing worse than its industry segment which showed a greater increase."

JOE A. QUINLAN, Vice Pres. and Traffic Mgr., St. Regis Paper Co.—He had a message that was different for Paper Week management men.

FASTER AND FASTER

An open meeting on materials heard Harry Moore, president of Beloit Iron Works, forecast news and kraft machines with speeds over 2,000 f.p.m. and tissue over 3,000 f.p.m. within the next three or four years. He urged adoption of Beloit's own "huddle system" of executives for closer cooperation between mills and builders, so that builders of equipment may know all about a mill's problems and fit the equipment into its program and competitive position more intelligently. He noted that kraft Fourdriniers might find a different kind of direct competion from jute cylinder machines if they were speeded up; that glassine has proved more than a match for cellophane, that the paper milk bottle has "a fragile opponent" in glass.

Interesting was his recollection that the automatic pickup felt "was discarded 20 years ago, and the industry has suffered because of our failure." Down the street the TAPPI group were hearing how this rejuvenated pickup now was speeding up newsprint and kraft to a point where it was actually slowing down demand for new mills. Mr. Moore predicted its successful use on tissue very soon. He forecast more successful production of lightweight kraft papers. He also told of a new 282-inch wide newsprint machine which is being built.

J. A. (Joe) Quinlan, St. Regis's vice president and traffic manager, chairman of the traffic committee of APPA and a former New York Central traffic man for many years, made an unusual address in that it was one that this industry's management has been a long time waiting to hear.

ROLE OF TRAFFIC MAN

He stressed the need of bringing traffic men closer to mill problems. Many a new mill these recent years has been decided upon, the site irrevocably selected, and then belatedly the traffic man is called in to study whether the rates are right. This is the 6th largest industry in transportation expense, too, said Mr. Quinlan, and traffic can assist in reducing inventories and in delivery of purchased goods as well as sales. "A dollar saved there is just as good as a dollar saved in sales," he said.

And his advice was—"tell the traffic man what you need and when; not *how* to do it."

His listeners were intrigued by his revelation of how an attempt recently failed in the industry to cure a shortage of cars for Georgia clay by flooding the ICC with telegrams. The ICC assumed clay could be bought somewhere else. But as soon as it was advised of the fact—just a simple point of information—that clay for this industry was not available anywhere else in this country, the ICC acted swiftly "to prevent a catastrophe." Tell your traffic man in time to prevent such catastrophes, was Mr. Quinlan's signoff.

Henry Perry and Mr. Everest were other speakers at this session, ably presenting facts about materials availability and the situation in these matters for the industry. C. W. Gallup, assistant to the president and purchasing agent of New York & Pennsylvania Co., Inc., presided.

Mr. Everest forecast plentiful woodpulp though its stumpage, labor and transportation cost would remain high. He concluded this would not permit paper price reductions. Waste paper he said, was in its greatest "state of flux" and in dealing with fuels, he described John L. Lewis as "the greatest oil salesman in the world." Sulfur has eased and other chemicals, he said, were mostly in ample supply. His advice was to "assume a normal supply and meet any bad situations which develop to the best of our ability."

Officers Elected During Paper Week—1953:

American Paper & Pulp Assn. President—Sydney Ferguson, the Mead Corp.; 1st Vice Chairman—D. S. Leslie, Hammermill Paper Co.; Executive Secretary—E. W. Tinker.

TAPPI: President—George H. Pringle, Mead Corp.; Vice President—K. O. Elderkin, Bowater Southern Corp.; Executive Secretary—R. G. Macdonald.

Association of Pulp Consumers: President—David Knowlton, Knowlton Bros.; Vice President—Carlton W. Smith, Moraine Paper Co.; Secretary-Treasurer—Reed R. Porter.

American Pulpwood Assn.: President—E. O. Ehrhart, Armstrong Forest Co.; Vice Presidents—W. J. Damtoft, Champion Paper & Fibre Co.; and L. J. Freedman, Penobscot Chemical Fibre Co.; Executive Secretary-Treasurer—W. S. Bromley.

U. S. Pulp Producers Assn.: Executive Director—James L. Ritchie.

Newsprint Service Bureau, Inc.: President—G. E. Young, Crown Zellerbach Corp.; Vice President—A. G. Wakeman, Coosa River Newsprint Co.; Secretary-Treasurer—John J. Zima.

Writing Paper Mfgs. Assn.: President—A. C. Remley, Nekoosa-Edwards Paper Co.; Vice President Sulfite Bond Group—J. H. Goodwin, International Paper Co.; Vice President Rag Content Paper Group—Hale Holden, Byron Weston Co.; Exec. Secretary-Treasurer—M. C. Dobrow.

Groundwood Paper Assn.: President—Robert Faegre, Minnesota and Ontario Paper Co.; Vice Presidents—Samuel Pruyn, Finch, Pruyn & Co., Inc.; and Andrew G. Sharp, Kimberly-Clark Corp.; Secretary-Treasurer—Robert E. Canfield.

Blotting Paper Manufacturers Assn.; President—Paul H. Travis, Rochester Paper Co.; Vice President—Graham A. Carlton, Standard Paper Mfg. Co.; Secretary-Treasurer—Eric G. Lagerloef.

Paper Napkin Assn. Inc.; Chairman—B. T. Hoffmaster, Hoffmaster Paper Co.; Vice Chairman—R. L. Fenstamaker, C. A. Reed Co.; Secretary—Arlo Wilson.

Coated and Processed Paper Assn.: President—Lawrence R. Clark, Hampden Glazed Paper & Card Co.; Secretary-Treasurer—Arthur A. Thomas.

Sulfite Paper Mfgs. Assn.: General Chairman—Donald F. McCall, Vice President, Racquette River Paper Co.; Vice Chairman, Bleached—James G. Conley, Fraser Paper, Ltd.; Vice Chairman, Unbleached—George Stuhr, Southern Kraft Div. International Paper Co.; Vice Chairman, Manila—Wayne A. Brown, Crown Zellerbach Corp.; Vice Chairman, Machine Glazed—Neil E. Nash, Nekoosa-Edward's Paper Co.; Vice Chairman, Bleached Converting—Gilford F. Henderson, Brown Co.; Secretary-Treasurer—Thos. J. Burke.

Pulp and Paper Machinery Assn.: President—Harry Moore, Beloit Iron Works.

The Tissue Assn., Inc.: President—William Servotte, Vice President, Bay West Paper Co.; Vice President—Wayne Brown, Crown Zellerbach Corp.; Secretary—Ross A. Fife.

National Council for Stream Improvement: Chairman—George F. Deke, Robert Gair Co.; Vice Chairman—Clyde B. Morgan, Rayonier, Inc.; and W. Irving Osborne, Jr., Cornell Paperboard Products Co.; Executive Secretary—Russell Winget.

Salesmen's Assn. of the Paper Industry: President—David Cheever, Jr., Hollingsworth & Whitney Co.; Secretary-Treasurer—Miss Anne G. Toomey.

Kraft Paper Assn.: President—Walter C. Shorter, Camp Mfg. Co.; Vice President—H. S. Daniels, Union Bag & Paper Corp.; Secretary-Treasurer—Dernell Every.

Glassine & Greaseproof Mfgs. Assn.: Chairman—Paul F. Moore, Westfield River Paper Co.; Secretary—Thos. J. Burke.

Eli de Vries Off To Europe Again

Eli de Vries of the E. de Vries Co., 3700 Chrysler Building, New York City, left for Europe on the "Queen Mary" Feb. 25. This trip he is planning to visit Holland, Belgium, France, Germany, Switzerland, Italy and the Scandinavian countries.

Mr. de Vries is also President of Trist Paper Coatings Inc. and European representative of Rice Barton Corp., Worcester, Mass.

Spencer Chemical Co. Man Gives TAPPI Report

With several mills in four states now gone over to ammonia base sulfite pulping from orthodox calcium base, the talk given by Gordon A. Crowe of Spencer Chemical Co., Kansas City, Mo., at one of the TAPPI sessions was of special interest.

He discussed the equipment modifications necessary for this change, principally in new instrumentation and conversion of Jenssen towers. He presented suggestions on storing and handling of ammonia.

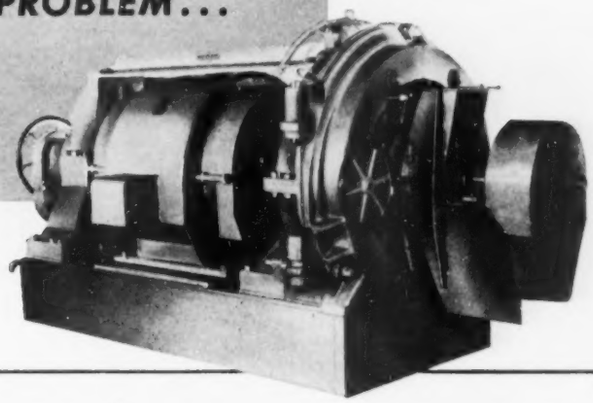
Eastern Corp. mills in Maine, Wausau Paper Mills at Brokaw, Wis., Consolidated at Wisconsin Rapids, Crown Z., Lebanon, Ore.; Columbia River Mills, Vancouver, Wash., Rayonier mills at Shelton and Hoquiam, Wash., and Scott's at Anacortes, Wash., are among mills now using the ammonium bisulfite pulping process.

Q. How do you spell **economical refining?**

A. **"S-P-R-O-U-T"**

FOR THAT PULPING PROBLEM...

GET A SPROUT!



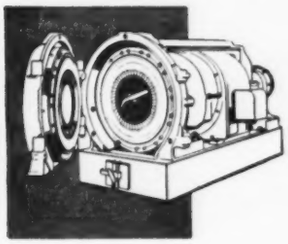
here's why:

Sprout-Waldron Refiners are chosen by *most* mills for all types of pulping and refining operations. They are the *leading producers* of semi-chemical pulp. For economical pulping and refining, choose a Sprout!

* high pulp quality
* high capacity
* flexible operation
* rugged construction

For careful analysis and specific recommendations, send your pulping problems to Sprout-Waldron. Address: Sprout-Waldron & Co., Inc., 32 Logan St., Muncy, Pa.

S W



SPROUT-WALDRON

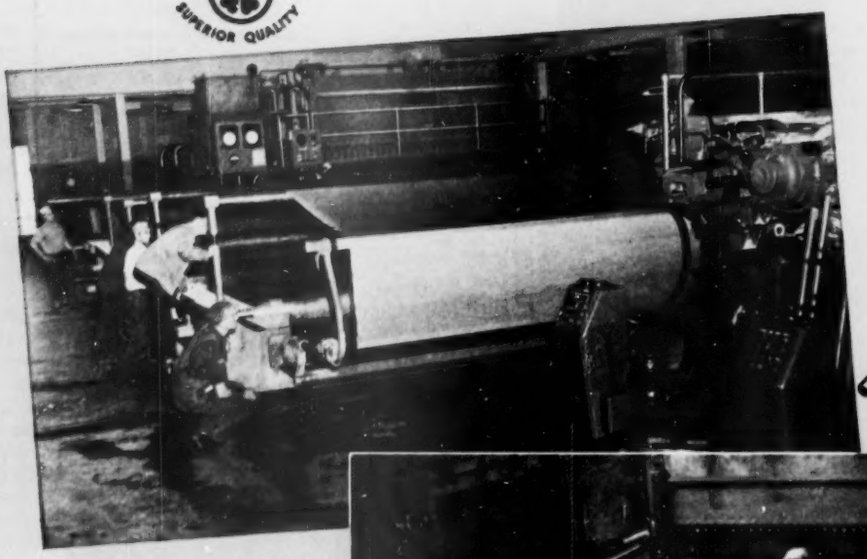
PULP REFINERS

271

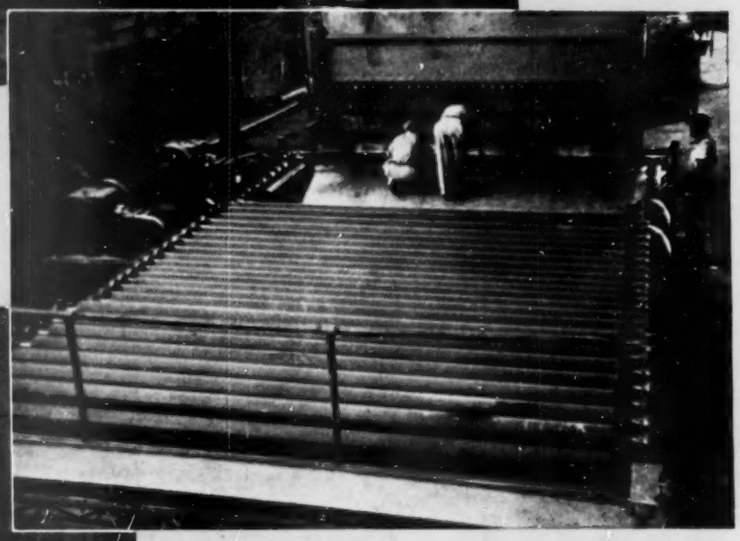
Puseyjones at Work

THE SIGN OF TRADE MARK SUPERIOR QUALITY

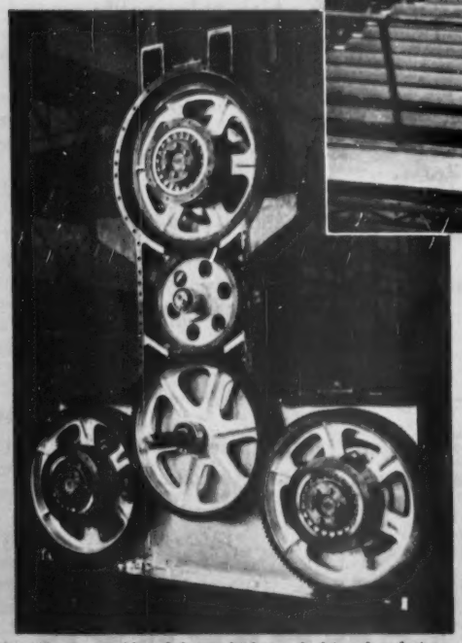
The Payoff is in the start-up



Fourdrinier Wire is installed by the Puseyjones "Rapi-drape" method just before the start-up at a new mill in Wisconsin.



Erection of a new Puseyjones Machine at a mill in Cali, Colombia.



Shop assembly of latest high-speed drive for drying cylinders prior to shipment to a mill in India.

At every step in the building of a papermaking machine – from the drafting board to the start-up – Puseyjones engineers are on the job. Look at the results when a Puseyjones Machine starts up. The men who designed the machine . . . the men who built the machine are working for you – demanding and getting the performance they know your machine can deliver. Call or write us about your machine problems.

THE PUSEY AND JONES CORPORATION
Established 1848. Builders of Paper-Making Machinery
Fabricators and Welders of all classes of Steel and Alloy Products
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TRIBUTE TO LIBBY

More than 300 pulp and paper alumni of the University of Maine and College of Forestry at Syracuse tributed C. Earl Libby at a luncheon at the Roosevelt in New York during Paper Week. Prof. Libby, now head of the department of papermaking at the School of Forestry at North Carolina State College, is a graduate of Maine, and was on the staff at Syracuse for 32 years.

Prof. Libby was given the Maine Pulp and Paper Foundation 1953 award "in recognition of many years of fruitful teaching and research in pulp and paper. Those whom he has inspired will long carry on the principles which he has taught and the ideals which he has implanted."

The Syracuse alumni presented him with a book containing signatures of the graduates of his courses at the school; several volumes of fine hand-made papers; and a generous travel order.

Beginning with Prof. Libby at lower left in photographs above, reading clockwise:

1. Clark E. Snook, Nopco Chemical Co., toastmaster for the occasion, who was elected new head of Syracuse alumni.

2. F. W. O'Neil, whose appointment to succeed Prof. Libby as head of the department of pulp and paper technology, College of Forestry, State University of New York, was announced at the meeting.

3. Prof. Libby with a trio who did much to influence him during his early days of Maine. From left, they are: A. G. Durgin, St. Lawrence Corp.; Prof. Libby; Ralph McKee, retired; and J. Newell Stephenson, Pulp and Paper Magazine of Canada.

4. J. L. Ober, vice president, Scott Paper Co., presenting the Maine Foundation award to Prof. Libby. At right is William R. Willets, Titanium Pigment Co., who presented Syracuse gifts.

5. Head table guests, seated (l to r)—K. R. Geohegan, vice president, Howard Paper Mills; Mr. Willets; Mr. Snook; Marsden Hutchins, Johns-Manville Co., and retiring chairman of Maine alumni; Prof. Libby; Everett K. Mansfield, president, Ellis Paperboard Products, a former classmate of Prof. Libby, and main luncheon speaker; and Mr. Ober.

Standing (l to r)—William P. Tolley, chancellor, New York College of Forestry at Syracuse; Ralph David, PULP & PAPER associate editor; Floyd C. Peterson, Dow Chemical Co.; Edwin C. Jahn, assistant dean, Syracuse College of Forestry; Fred Flaherty, Jr., president, Syracuse alumni association; Harry Weston, secretary-treasurer, APPM Superintendents Assn.; Douglas Jones, director, technical section, CPPA; Ray Hatch, Hudson Pulp & Paper Co.; Prof. O'Neil; Richard Preston, dean, school of forestry, No. Carolina State College.

DIGESTER CORROSION

DEVELOPMENTS LEARNED AT PAPER WEEK

ONE MEETING OF TAPPI which drew a packed attendance during Paper Week in New York was the full session on Digester Corrosion—probably the No. 1 enigma of this industry and one in which kraft industries of both U.S. and Canada are cooperating in longterm programs aiming hopefully toward a solution.

For several years PULP & PAPER has followed closely all these developments and in articles especially written for this magazine's readers have brought them up-to-date—especially those written in last December's issue by James R. Lientz, of Union Bag, chairman of the TAPPI chemical engineering committee, and the year before, in the Dec. 1951 issue by Francis W. Flynn, Crown Zellerbach, and a leading member of that committee.

A this meeting Mr. Flynn, collaborating with Fred H. Richter and Fred B. Snyder, of Babcock & Wilcox, presented information on some studies carried out at the big C-Z mill in Camas, Wash., which revealed some causes of corrosion that can definitely be corrected.

But, nevertheless, probably the most startling news at Paper Week this year was not a subject on the program at all. Two of the best informed persons working on this problem told PULP & PAPER that there is something new and mysterious that is causing a major portion of kraft mill digester corrosion.

These two informants made these statements off the record, but independently and unbeknown to the other. Something has happened that is causing more corrotion in very recent years than five or 10 years ago. It cannot be explained because some mills have gone to higher sulfidity. The higher corrosion rate has developed in some mills that have not gone to higher sulfidity.

It is possible that an explanation may be found in high plate boiling and that in the efforts to push production in recent years, digesters were seldom allowed to rest or lose temperature. But this is only shown, so far, to be a partial explanation.

Next Oct. 28 at the Mount Royal in Montreal, this industry's Engineering Conference will hear Claude Christiansen report on the industry wide Canadian survey which is billed as a talk to reveal causes of corrosion in alkaline pulping equipment. The Armour Research Institute, given a substantial grant to work on other corrosion problems, is also due then to come up with a report. There are those —and they are not to be regarded as any less expert than others in this field—who think it is going to be very hard to find any conclusive answers.

Be that as it may, Mr. Flynn in his paper revealed some definite reasons for some of the kraft digester corrosion.

DISCUSSES HASTELLOY F

Also unveiled at New York was Hastelloy F, a new corrosion-resistant alloy for lined digesters. Merrill O. Scheill, who has headed up the extensive corrosion studies made over several years by A. O. Smith Corp., builders of digesters, described it. It is made by Haynes Stellite division of Union Carbides & Carbon and is applied in the work done by A. O. Smith. It has been applied already in the sulfite pulp industry for lining top portions of digesters.

Mr. Flynn told of how several AISI type 405 alloy-lined rotary digesters installed in the Camas kraft mill in 1948 experienced severe corrosion after short service. Some areas were attacked where there had been a boiling action from liquor contacting the hot shell. It should be explained this alloy was chosen on the basis of corrosion specimen tests after the formerly satisfactory carbon steel vessels were showing shorter life in new postwar mills.

It can be stated that hot plate boiling action resulting from contact of small liquor quantities with hot digester surfaces is a major cause of corrosion in these 405 digesters, said Mr. Flynn. Chip packing is seldom 100 per cent uniform so liquor flows vary. And splashing or foaming on hot surfaces on one side or another of a digester, depending where the liquor flows, was where corrosion occurred.

Two methods were used to arrest corrosion in these digesters.

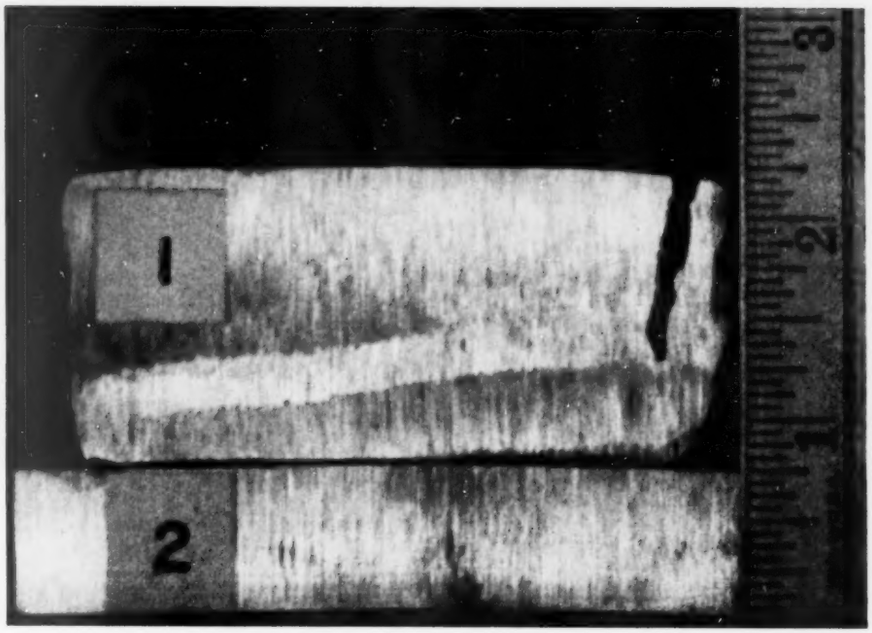
One was the use of spaced liners on which Babcock & Wilcox has patents pending and which are illustrated in pictures accompanying this article. Another method, now being used at Camas, was filling digesters from the bottom to avoid the splashing. Both of these methods, Mr. Flynn and his co-authors said, should be beneficial also in reducing corrosion in carbon steel digesters.

Cooking practices in recent years appear to have heightened hot plate boiling which may explain the increased corrosion in some instances. Therefore, mills were urged to compare number of cooks per day, down time between them, rate of filling, temperatures and insulation as practiced now with the former period when satisfactory life was obtained.

In the discussion, a West Virginia spokesman said their digester liquor nozzles at a particular mill are six inches off center and corrosion occurred on that side.

The B & W metallic liners were specially-designed non-pressure-tight liners. There is a wire mesh type of liner and also a ⅛ inch thick alloy plate with half

EXAMPLES OF HOT PLATE TYPE OF CORROSION



ILLUSTRATING THE THEORY OF "HOT PLATE TYPE OF CORROSION," this PULP & PAPER photograph shows cuts from a kraft rotary mild steel digester after 14 years of service at Crown Zellerbach Corp., Camas, Wash. They show effects of splashing liquor on one side of hot shell of a digester during charging. The two cuts were from same elevation of shell, but 180 degrees apart. Original thickness of both specimens was two inches. No. 1 shows a corrosion rate of 0.0368 inches per year. No. 2 shows a rate of 0.0886 inches per year. Corrosion is believed a common effect of splashing. In all cases in 405 lined vessels the severe corrosion is caused by boiling on the shell and these same conditions will cause corrosion in unlined vessels.

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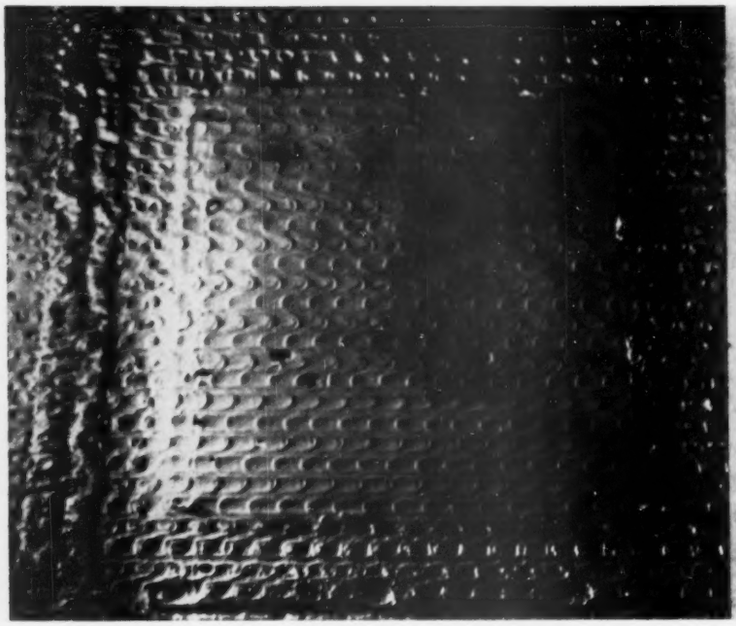
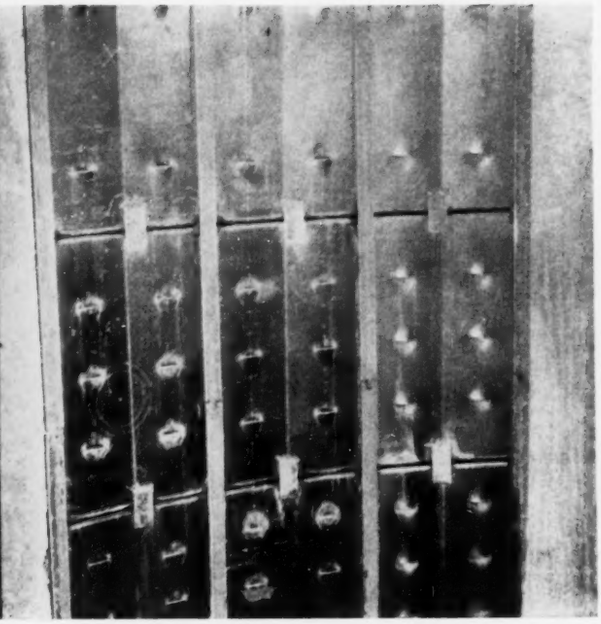


VIEW AT LEFT—BABCOCK & WILCOX MESH TYPE LINER was used at Crown Zellerbach mill in Camas, Wash., and this view shows how well this area was protected under the mesh, which has just been removed. It had two years' service.



VIEW AT RIGHT—B & W ALSO HAS PATENTS PENDING ON ITS CARBON STEEL SPACED LINER which is shown here after six months' service in a big Southern paper mill. This is exposed face of the spaced liner used to arrest corrosion.

inch holes on two inch centers.

Because of the success at Camas, a B & W spaced liner was used in a 405 lined stationary digester at a big Southern paper mill. It very soon stopped corrosion. The liner was made of 1/16 in. 405 alloy plate spaced one half inch from the shell and covering 40 sq. ft.

THILMANY FIELD LINING

Steve J. Baisch, of Thilmany Pulp & Paper, reported on field applied ⅛ inch Inconel lining of three of its digesters. One tumbling type digester had 2½ years of lining service and the other over one year. In general Inconel alloy shows excellent corrosion resistance to alkaline liquors, and former hesitancy of International Nickel authorities to recommend this type of field lining has been overcome providing sufficient care is taken. Excessive cracking occurred in the welds adjacent to the Inconel strips. Behind this is a scale formation taking place which seemed to confirm Crown Zellerbach thinking when they placed the loose B & W liner and deflector in the digester to create protective scale so no more corrosion took place.

There are still problems to be solved in field linings and it is recommended that Inco engineers be called in before any intensive project is undertaken. It may be more successful if improvements in welding design and methods are developed. But field lining in repair is approved in places where there is spot type corrosion.

A technical treatise by Ed Hopper of Crucible Steel emphasized the scope and ramifications of the expensive corrosion problem and pressure vessel steel specifications and related problems were discussed by H. F. Peters of Lukens.

A Corrosion Committee Member - -
DISCUSSES CORROSION OBJECTIVES

By F. W. Flynn

Of Crown Zellerbach Corp., Camas, Wash.
Member of Digester Corrosion Sub-Committee

FRAN FLYNN ***JACK WILCOX***

FRANCIS W. FLYNN (left), Asst. Kraft Mill Supt., Crown Zellerbach Corp., and member of the TAPPI Digester Corrosion Subcommittee, who wrote for PULP & PAPER readers an appraisal of committee progress published on these pages. He also presented paper written jointly with Babcock & Wilcox engineers indicating that boiling action of liquor on hot digester surfaces is one corrosion cause and one which can be remedied.
JACK WILCOX (right), Manager of Process Equipment Division, Electric Steel Foundry Co., Portland, Ore., presented results of a continent-wide survey of sulfite digester heater tube cleaning methods which he prepared jointly with W. R. BARBER, JR., also of ESCO and son of Crown Z's former Research Director. Of 91 mills queried, 53 replied but conditions were so varied no definite conclusions could be drawn.

The continued interest in the activity of the TAPPI Digester Corrosion Sub-Committee was evidenced at the 38th Annual Meeting with a large attendence at the three committee meetings and the program of formal papers.

At the first of the three meetings Nicholas Shoumatoff, of West Virginia Pulp & Paper Co., sub-committee chairman, restated the general objectives of the subcommittee which were to develop practical solutions to the problem of corrosion in kraft digesters by:

1. Discovery of practical means of modification of operating conditions or equipment which might reduce localized corrosion.

2. Establishment of information as to the proper materials of construction, digester design and development of new materials of construction.

3. Establishment of reliable procedures of digester inspection evaluating their safety and repair of affected areas.

Mr. Shoumatoff pointed out that although it was too early to report any final results there were a number of promising indications that these objectives can be fully achieved.

At the other two meetings the projects of the committee were discussed. One of

the very important projects underway is a study by the Armour Research Foundation Institute of the very large amount of data that has been collected by industry of successive digester wall thickness measurements. This data will be subjected to statistical analysis to determine just the magnitude, characteristics and incidence of digester corrosion according to various locations of the industry, digester types and process variables; and, secondly, to determine the best criteria for evaluating repairs and replacement. The success of this study depends to a large extent on the reliability of the information submitted, and it was the consensus of the committee that with some exceptions the information that has been so far submitted will lend itself to this analysis.

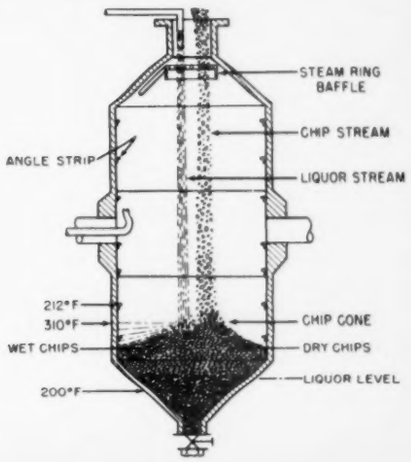
A second project underway by the committee is the preparation and publication of a comprehensive manual on digester inspection. Although a digester inspection manual has been prepared by the research group of the Pulp and Paper Research Institute of Canada it was felt that a manual prepared by the Corrosion Sub-Committee, making use of the Canadian manual whenever possible, will be a contribution to the industry.

The five formal corrosion papers presented in New York were in line with the first objective of the Corrosion Sub-Committee. (A paper given by Mr. Flynn led off—but, of course, a discussion of his paper is published elsewhere on these pages. His comments on other papers:)

E. W. Hopper (of Crucible Steel), outlined the variables in the steel, liquor, and the liquor circulation which may influence corrosive or erosive attack and illustrated with tables the chemical, spectroscopic, and microscopic examination of a number of steel samples. A very important contribution was made by illustrating a method used to patch a seriously thin digester shell and thereby increasing the digester life.

S. J. Baisch (of Thilmany Pulp & Pa-

THIS DRAWING SHOWS LIQUOR AND CHIP DISTRIBUTION in No. 1 Digester at Camas, Wash., Mill of Crown Zellerbach. Note splashing at lower left from liquor line, while other side is protected from this cause of corrosion. Left wall became corroded and right wall was mostly uncorroded and scaled. The angle strips of same material as cladding did not corrode, which indicated the differing result from splashing a cold and hot surface.



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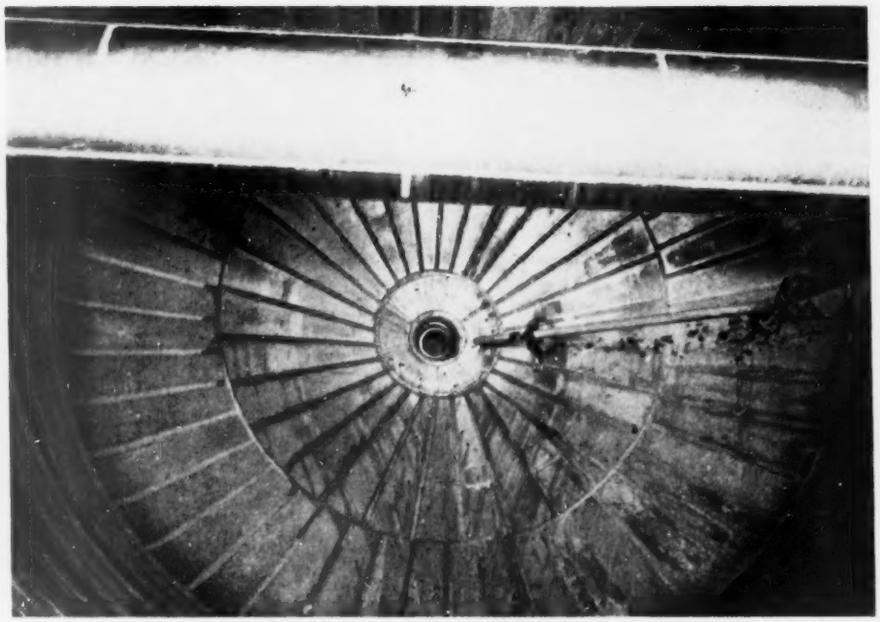
per Co.) told of their experience in an attempt to prolong digester life by field lining digesters. The conclusion drawn from their work is that, in general, the alloy Inconel has shown excellent corrosion resistance, but future consideration must be given to a welding procedure to seal the liner to the carbon steel shell of the vessel.

H. F. Peters of Luken Steel, discussed the terms "killed," "semi-killed," and "rimmed" steel. In the review of old boiler steel specifications and their comparison with present day pressure vessel specifications, the only discrepancy worthy of note that might have possible effects on the digester corrosion problem is their silicon content. Before the advent of automatic welding, riveting on forge welding was used and the steels for these processes were of the "rimmed" type.

M. O. Sheill of A. O. Smith Corp., presented evidence that a new alloy, Hastelloy F, offers a new promise of an alloy that will withstand not only the corrosive action of sulfate liquors, but also the mechanical stresses to which the alloy is subjected in digester service. This new alloy has had considerable service in sulfite pulping service where pit corrosion due to scale formation is a problem and promises to be as successful in kraft digester service.



THIS IS ONLY SECTION IN NO. 5 Digester at Thilmany Pulp & Paper Co. where field-applied Inconel strip has not shown any cracking to date. This was field lined over a year ago. Whole digester was field lined except the head end. Dots show turpentine or gas-off line. This section is looking good and one of significant developments of corrosion meeting in New York was that International Nickel Co. has now taken a new position on field linings for repair for spot type corrosion, endorsing this action when adequate precautions are taken. It previously had been reluctant to support this repair work, but consultation with INCO experts is still urged before any large project is undertaken.

NEW SAFETY RECORDS MADE IN OREGON

A sense of satisfaction and pride of a job well done pervaded the seventh annual Joint Labor and Management Safety Conference held Feb. 19-20 in Portland, Ore.

This state-wide session between the AFL Unions and Pacific Coast Assn. of Pulp & Paper Manufacturers brought together representatives genuinely concerned and doing something about safety in the pulp and paper field.

The program, conducted by co-chairmen Miles Murray, Crown Zellerbach Corp., Portland, and John Teevin, Paper Makers, Tacoma, Wash., opened with a statement of objectives by State Chairman Charles S. Hood, Publishers' Paper Co., paying tribute to young personnel which has become active in co-operative industrial safety.

M. J. Otis, CZ West Linn resident manager, in delivering opening address said, "The example set by our industry has established new standards for mills elsewhere in the country and has attracted nationwide attention of other industries." However, he warned, accident prevention is an endless job and expansion and continuous modernization of the mills complicates the safety problem responsibilities of all concerned.

He emphasized that further safety program improvement should result from "more thorough study of *why* accidents occur . . . identify the real cause of the accident."

That the co-operative program has been successful was borne out by the progress report presented by William E. Riggs, Publishers' Paper Co., disclosing the following: Since the joint labor-management program adoption seven years ago, Oregon's pulp and paper mill injury frequency rate has diminished from its high of 62.01 in 1945 to 6.83 for year of 1952. Oregon's frequency rate for the industry in 1945 exceeded that of one Pacific Coast state by 74% and the other state by 110%. Although the mills in all three states have since lowered their frequency rates every year except one, the rate of Oregon's mills was lowest of the three for 1952.

Co-chairman Murray called attention to the fact that when instituting the joint program, the industry's national average frequency was 26.9 compared to Oregon's 62.01, for last year the national's 14.8 (first 9 months) was over twice as high as this state's 6.83.

Chris T. Nyland, safety director, St. Helens Pulp & Paper Co., along with other employes of that mill put on a skit featuring safety. Otto Hartwig, consulting safety engineer, give an historical review of industrial safety; H. M. Croner, CZ Corp., held a safety round table discussion and Fred Pontin, CZ supervisor of first aid instruction, demonstrated latest techniques of artificial respiration.

At the banquet Al E. Brown, vice president of the Paper Makers, awarded the Joint Labor-Management Trophy to the Crown Zellerbach West Linn plant, which had 1952 frequency rate of 3.91, lowest of all mills of the state and a five-year low record of 7.8.

JOINT OREGON SAFETY CONFERENCE PROGRAM PARTICIPANTS (l. to r.): Co-Chairman Miles Murray, CZ Corp., and John Teevin, Paper Makers Representative; M. J. Otis, Res. Mgr. CZ West Linn; William E. Riggs, Pulp, Sulfite & Paper Mill Workers; State Chairman Charles S. Hood, Publishers' Paper Co.

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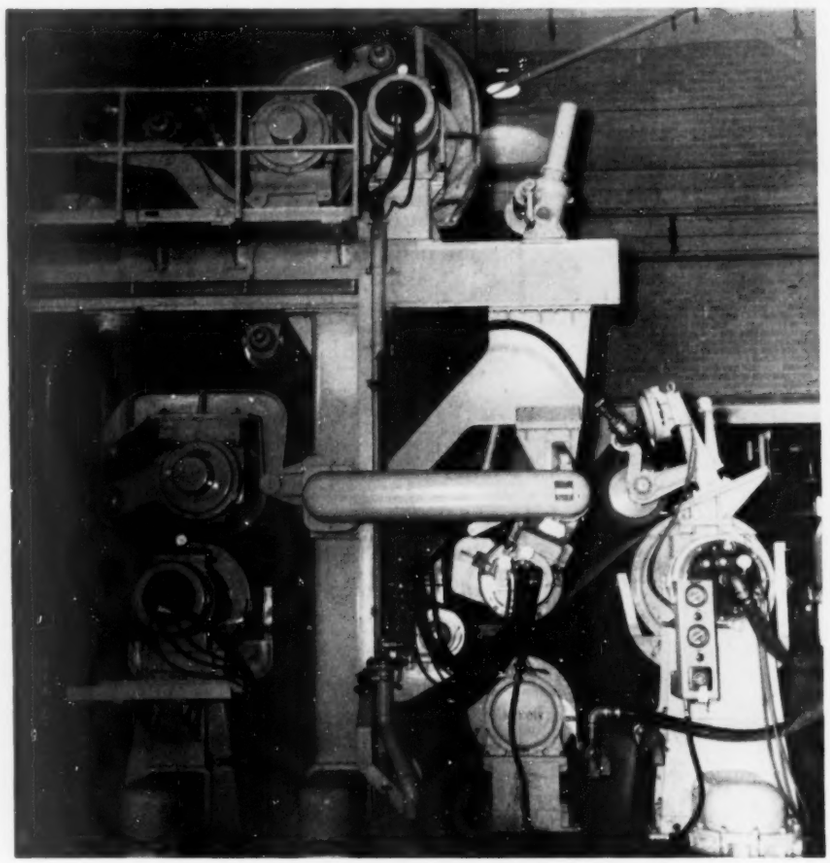


THIS PHOTOGRAPH SHOWS A VACUUM TRANSFER ARRANGEMENT which is a duplication in effect of the pick-up arrangement on No. 2 Newsprint Machine at Crown Zellerbach Corp., Port Angeles, Wash., which was discussed at Paper Week—the first in newsprint. This photograph is actually on one of several installations recently made in the South for high speed kraft machines.

Unveiled at Paper Week in one of TAPPI's salons was news of the first installation of the automatic transfer, or suction pick-up, for lifting a newsprint sheet from wire and conveying it into the press section without strain.

This has been going on for some time at the Port Angeles, Wash., mill of Crown Zellerbach Corp., on its No. 2 (164 in. wire) Fourdrinier machine—first in the newsprint world to adapt the spectacular speed-up mechanism. Its great potentialities in permitting more newsprint production (up to 35% per machine), its possible deterrent effect on the building of new mills and adding new machines, and also its lower requirements of chemical pulps in newsprint were crystal clear to the audience which heard Lloyd Hornbostel, vice president of Beloit Iron Works.

Less than 18 hours earlier, up at the Waldorf before the APPA, President Harry Moore of Beloit frankly admitted his company had once discarded the automatic pick-up—20 years ago—and "industry had suffered because of our failure." But Beloit "adopted" it again and soon, he forecast, it would be successful on tissue, as well as newsprint and kraft. He predicted tissue speeds over 3,000 fpm. and news and kraft passing 2,000 fpm., in a few years—of course, due to other improvements to come, too.

PULP & PAPER magazine carried the first photograph with detailed description of the suction pick-up in its April 1952 issue (page 56-59—exclusive story on Hudson's Palatka, Fla., expansion) and other earlier stories. This magazine also carried first news of the first modern installation, on Crossett's 216 in. machine which holds top kraft speed record of 1,900 fpm. for periods since the transfer was introduced there in 1947. Next it was installed on Camp Mfg.'s 226 in. machine at Franklin, Va., and thereafter, Palatka's new 236 in. lightweight kraft machine and then the Port Angeles machine. There have been two more installations in kraft on new machines at Brown Paper Mills in Monroe, La., and Halifax Paper Co., at Roanoke Rapids, N.C., whose new 226 in. machine just started up in Feb. 1953.

Mr. Hornbostel told of the vacuum-type transfer operating safely and efficiently at Port Angeles with sulfite contents reduced as low as 9 to 10 percent. To attain high speeds in news up to 20 to 25 percent has been required.

The elimination of the draw and stretching between couch and first press resulted in a stronger and better sheet. The sheet is about 29% dry at the first draw, which makes possible higher speeds. It is at this point on a machine that breaks happened most frequently in past designs, and thereby limited speeds and required the conventional higher sulfite content. Long runs without breaks have been recorded in the South.

At Port Angeles, unlike in the South where machines were new, it was a rebuilt job of an older machine, only a two-roll width machine. But it has demonstrated significantly that newsprint machines can be increased in capacity. Now, as previously announced in these pages, the new big 280 in. machine being built for Great Northern Paper will be so equipped and plans are for its addition to the new Elk Falls (B.C.) Co., newsprint machine.

No. 2 at Port Angeles had been running at about 1500 fpm. but with the transfer it has run in range from 1600 to 1650, only being limited by speed possibilities of its drive. Crown Zellerbach, in recent years, had had other improvements including a Beloit pressurized headbox which gave improvement in formation and a moderate speed increase.

Actually improved printing characteristics have been reported by Port Angeles as a result of the lower chemical pulp content of the newsprint.

Ray Schadt is resident manager at Port Angeles and more directly supervising all the newsprint operation improvements there is one of the best known superintendents in the country, the veteran Claude Kelley, who for many years was superintendent at Ocean Falls, B.C. Les Warwich, plant engineer at Port Angeles, likewise has had a prominent role in improvements.

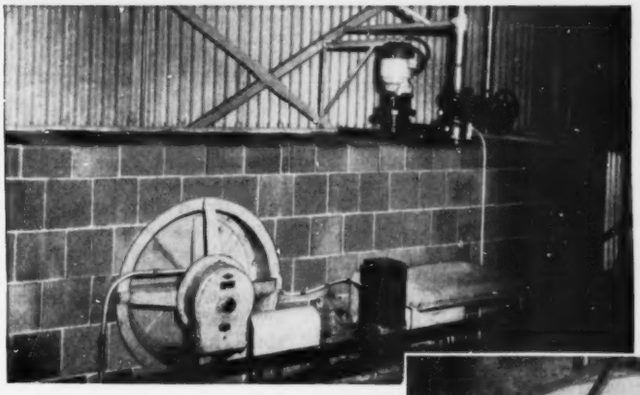
Mr. Hornbostel said that in newsprint the transfer will make possible increase of capacities up to 35%; increased groundwood content, for better printing; reducing of machine breaks by 75%, and reducing of sulfite or other chemical content from around 20 to 10%. Forestry conservation was stressed by him, as he said it was possible to get 10 to 15% more newsprint with the same amount of pulpwood, due to higher yield in groundwood than chemical pulps.

Other Papers

Other papers at this important session:

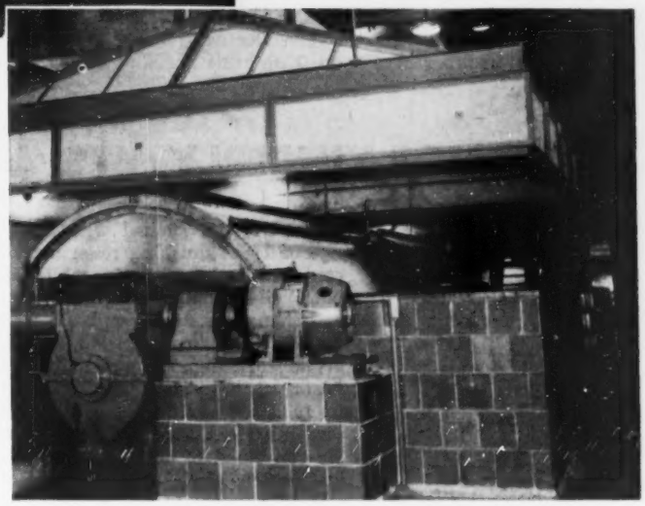
Harold Adams, chief engineer of Nash Engineering Co., spoke on the thermodynamics of the water ring compressor. This machine which is used to produce the necessary vacuum on most paper machines has heretofore been sized by rated capacity under standard conditions of 60° F at 50% humidity. Recent tests have

Two More Modern Mills
Rely on Stebbins Tanks and Linings to Protect Against Corrosion



Weyerhaeuser Timber Co.
Longview, Washington

At the new Kraft Paperboard Plant, 54,810 sq. ft. of Stebbins tile and linings contribute to efficient operation of the stock tanks, white-water chest, beater stock chests, wire pit, couch pit, vacuum sump pump, IMPCO washer vats, washer seal boxes, flat box sump, Oliver Saveall vat, IMPCO stock meter, chlorination tower, caustic towers and hypo tower.



Hollingworth & Whitney Co.
Mobile, Alabama

As part of the new expansion at Mobile, 32,761 sq. ft. of Stebbins tile gives corrosion resistance to the chlorination tower, sulphur dioxide tower, caustic towers, hypo towers, two 30' diameter storage tanks, washer vats, stock meter and regulator, and head box. This is in addition to the complete Stebbins tile installation made in the first bleach plant erected in 1940.

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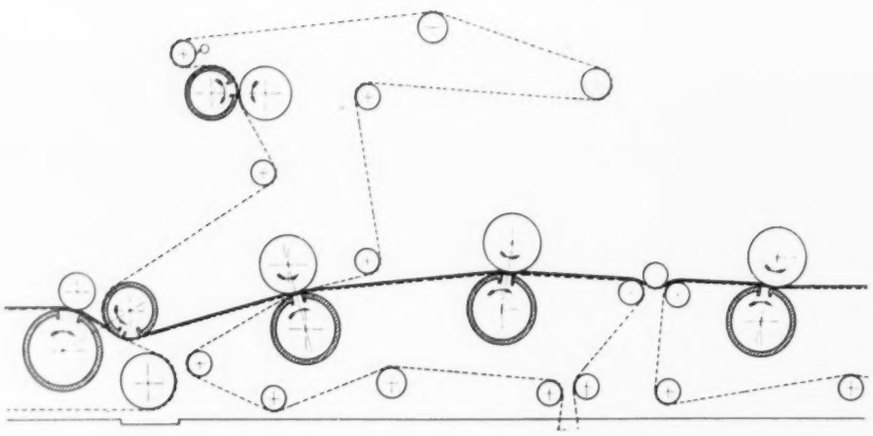
HERE IS DRAWING FROM CROWN ZELLERBACH CORP., showing press section arrangement of its No. 2 Fourdrinier Newsprint Machine (164 in. wire) at Port Angeles, Wash., Division embodying first installation in newsprint industry of the automatic transfer or suction pickup. Rebuilding of press section was by Beloit Iron Works which holds patents on new transfer arrangement already successfully introduced on five kraft machines in the South. Because it lifts sheet from wire and conveys it into press section without strain, it permits higher newsprint speeds which may mean more potential newsprint production from existing mills.



brought out the fact that under the operating condition generally found on a paper machine, where the pump is handling hot saturated air, the water ring pump will develop considerable more than its standard rated capacity because of the cooling and condensing affect of the seal water. Under high vacuum conditions where the water temperature is higher than the seal water the water vapor in the air, which represents a large portion of the total gas volume, will be partially condensed during the intake cycle which allows the pump to take in an increased amount of air.

To get the maximum benefit, the seal water should be as cold as possible and in sufficient quantity to prevent it from being unduly heated up in the pump.

It was pointed out by one member of the audience that the usual practice is to reduce the seal water until the pump was warm which will tend to reduce the condensing effect and reduce the pump capacity.

The Deculator at Crossett

"The Deculator on a Kraft Paper Machine" by A. W. Duskin and W. B. Jenkins of Crossett Paper Mills, Crossett, Ark.

The Deculator has proven worthwhile on their kraft machine. Lost time due to breaks has been reduced and production has increased. Also there has been a considerable saving in drying steam which results from the better contact resulting from the smoother better formed sheet, which is probably somewhat dryer due to the higher vacuum on the couch which has resulted from the denser sheet they are now making. Control of the machine since installation of the Deculator has been no different than before as the Deculator operation is automatically controlled.

NEW MANAGER OF KIMBERLY, WIS., MILL

A. D. WILKINSON,

New Manager of big Kimberly, Wis., Mill of Kimberly-Clark Corp.

A. D. Wilkinson has been promoted from production superintendent to manager of the five-machine (350 tons a day) book paper mill and groundwood and sulfite pulp operations of Kimberly-Clark Corp. at Kimberly, Wis.

He has succeeded Joseph T. Doerfler, who ended a 48-year career with K-C when he started a four-week vacation Mar. 7 preceding his retirement. Fred Seaborne, assistant v.p. and general superintendent of mills, made the announcement.

Mr. Wilkinson, a "new" 25-year man with K-C this year, started at Kimberly a week after graduating in chemistry from Cornell College in Iowa. He worked up to superintendent, then went to Neenah headquarters for staff assignments, including four years as staff superintendent of paper operations and assistant chief mill manager. He returned to Kimberly to head production in 1949.

Mr. Doerfler started with K-C at the age of 17 as finishing room marker (7½ cents an hr.) and later, while a power plant oiler, joined a home study group and then took correspondence courses to become a master electrician. In staff power, he worked on the new mills at Kapuskasing, Ont., and Niagara Falls, N.Y., and in 1928 succeeded Henry G. Boon, now vice president, as manager at Kimberly. He continued to help on other new K-C installations elsewhere. And to cap his career, Kimberly, under him, set a national industry record of 2,617,000 man-hrs. without a lost time accident.

Nearly 1,000 persons packed Kimberly clubhouse for an all-out farewell tribute to Joe Doerfler, who received gifts of a television, an easy chair from employes and honorary membership in the Paper Workers union.

Canadian Expansion Is Postponed

The kraft mill which Irving Pulp & Paper Co. planned along with its sulfite operations at St. Johns, New Brunswick, has been postponed until 1955 and the addition of another new newsprint machine at one of the Quebec mills was reported also postponed for at least that long. The pick up transfer and new devices for news print speedups were possibly causing delay in a number of talked of plans for New newsprint mills and additions.

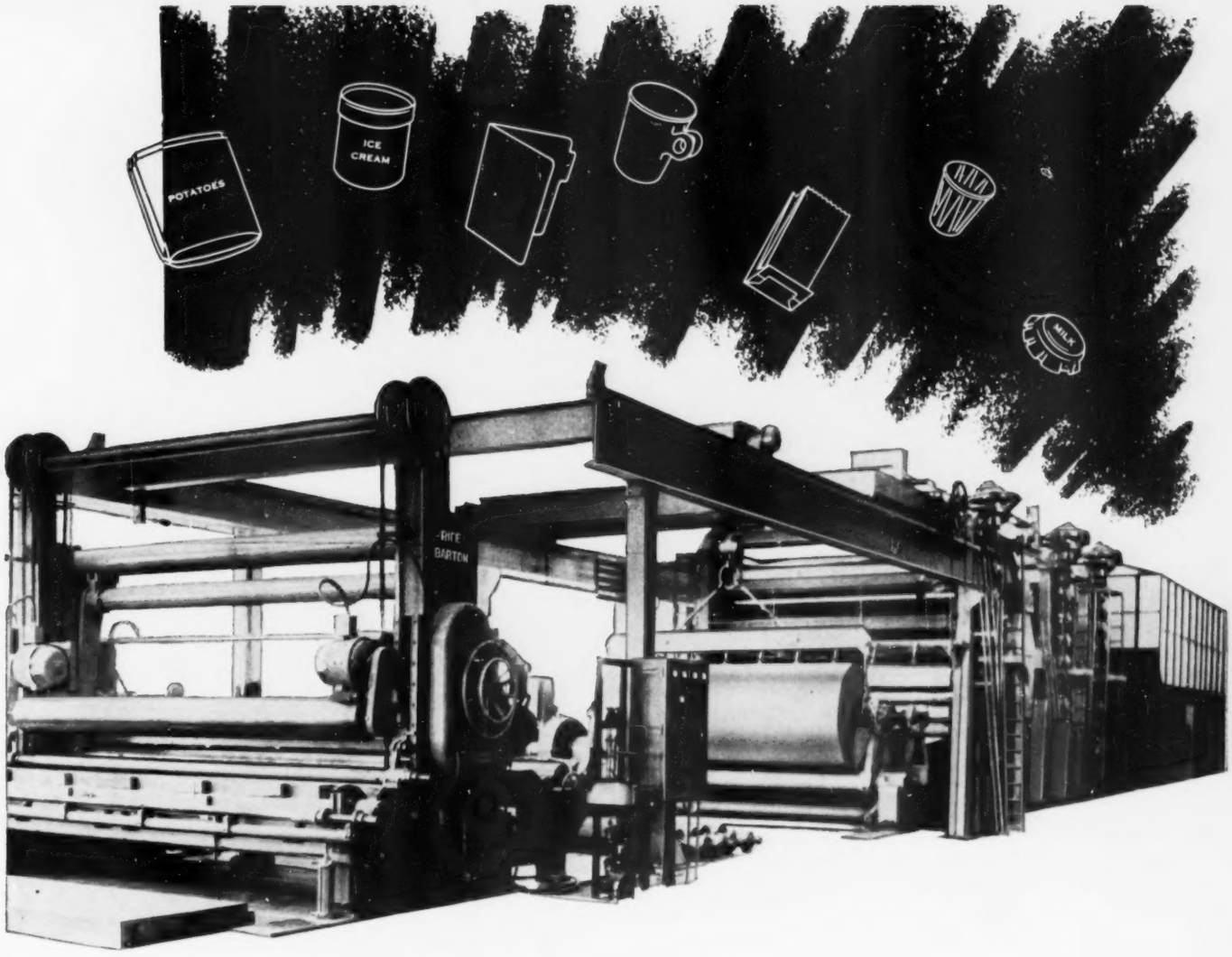
Story of K-C Mills At Neenah, Wis.

Kimberly-Clark Corp.'s two-in-one mill, the Neenah, Wis., mill, is featured in a recent issue of the employe magazine, *Cooperation*. The Neenah mill is Badger-Globe and Lakeview welded into one operating unit for creped wadding production. From the mill daily goes 30 carloads of product by rail, enough in a month's time to fill a train stretching the six miles from Neenah to Appleton. Its creped wadding machines consume 260 tons of pulp each day, its water needs total 11 million gallons every 24 hours, its Lakeview boilers eat up 35,000 tons of coal each year.

Neenah mill's cleanliness and sanitation program costs a sum running into six figures; its cafeteria busiess compares with a big city restaurant with 3,000 servings daily; its 6-story warehouse with enough space for six football fields, and it is the tallest building in Neenah.

The monthly payroll of Neenah mill approximates 1,830 empoyes, of which 43 per cent live in Neenah, 23 per cent in Appleton and Menasha, 7 per cent in Oshkosh, 1 per cent in Kimberly and 3 per cent in other communities.

Highlights in Neenah mill's last 20 years has been the transformation of Lakeview from a 2-paper machine mill to a 5-creped wadding machine mill, and of Badger-Globe from a 3-small machine mill to a 4-creped wadding machine unit, and the modern mechanization of its converting equipment. It was here that the first Kimberly-Clark mill was built and equipped with one 72-inch machine which produced two tons of ragstock newsprint on the start-up day, Oct. 22, 1872. Later book paper, wrapping, toilet and finally, Kotex and Kleenex, were made here.



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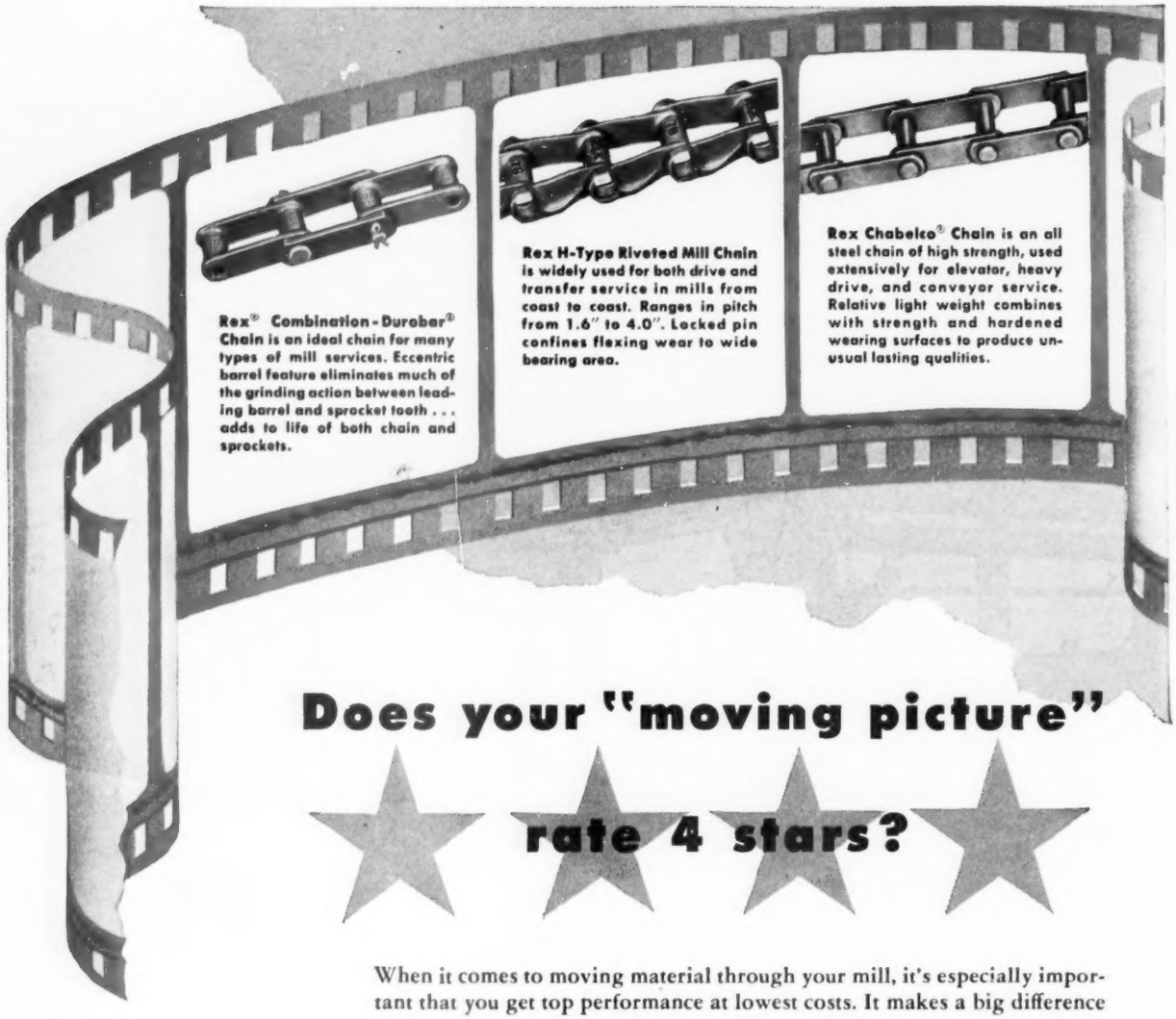
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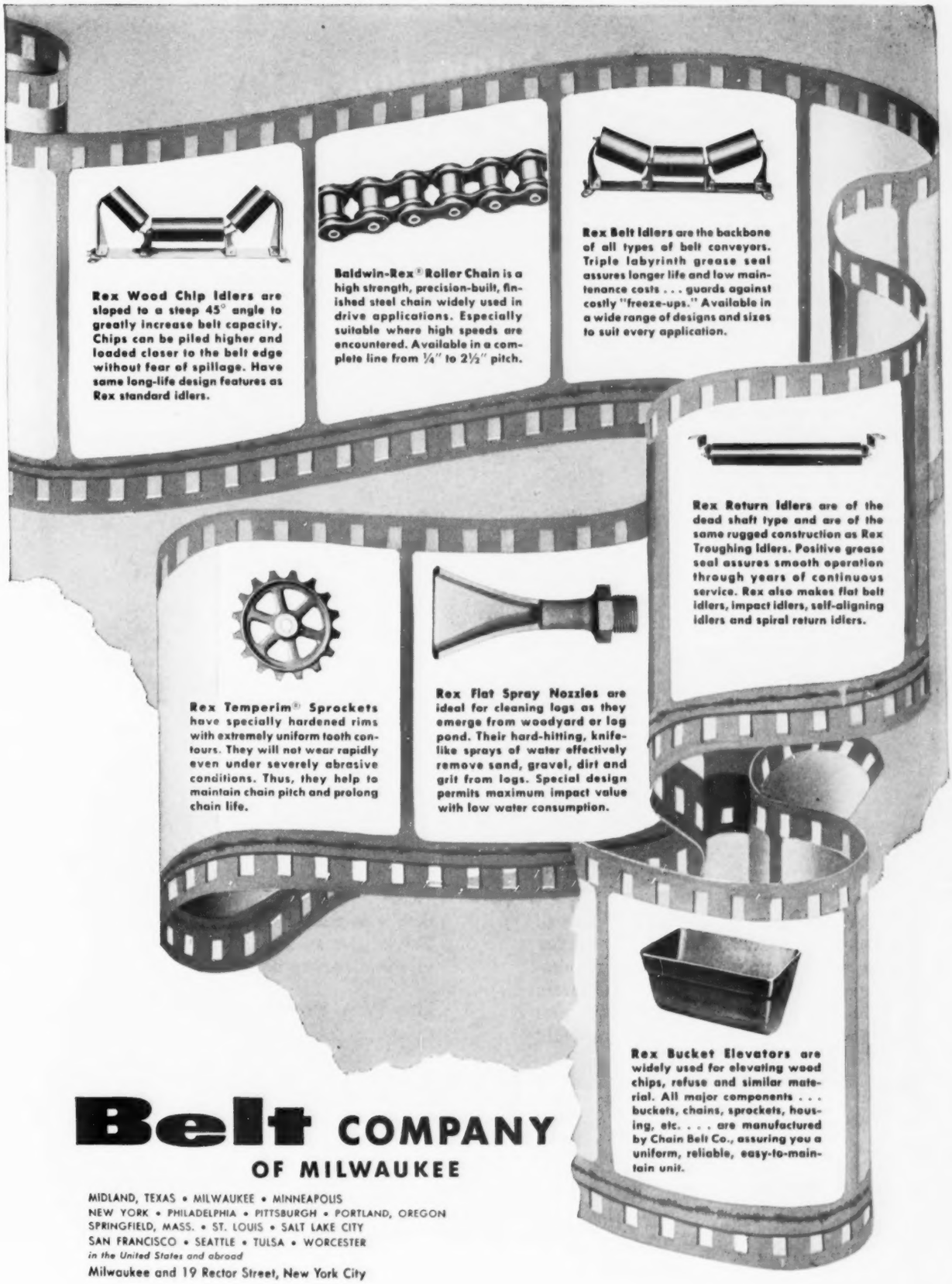

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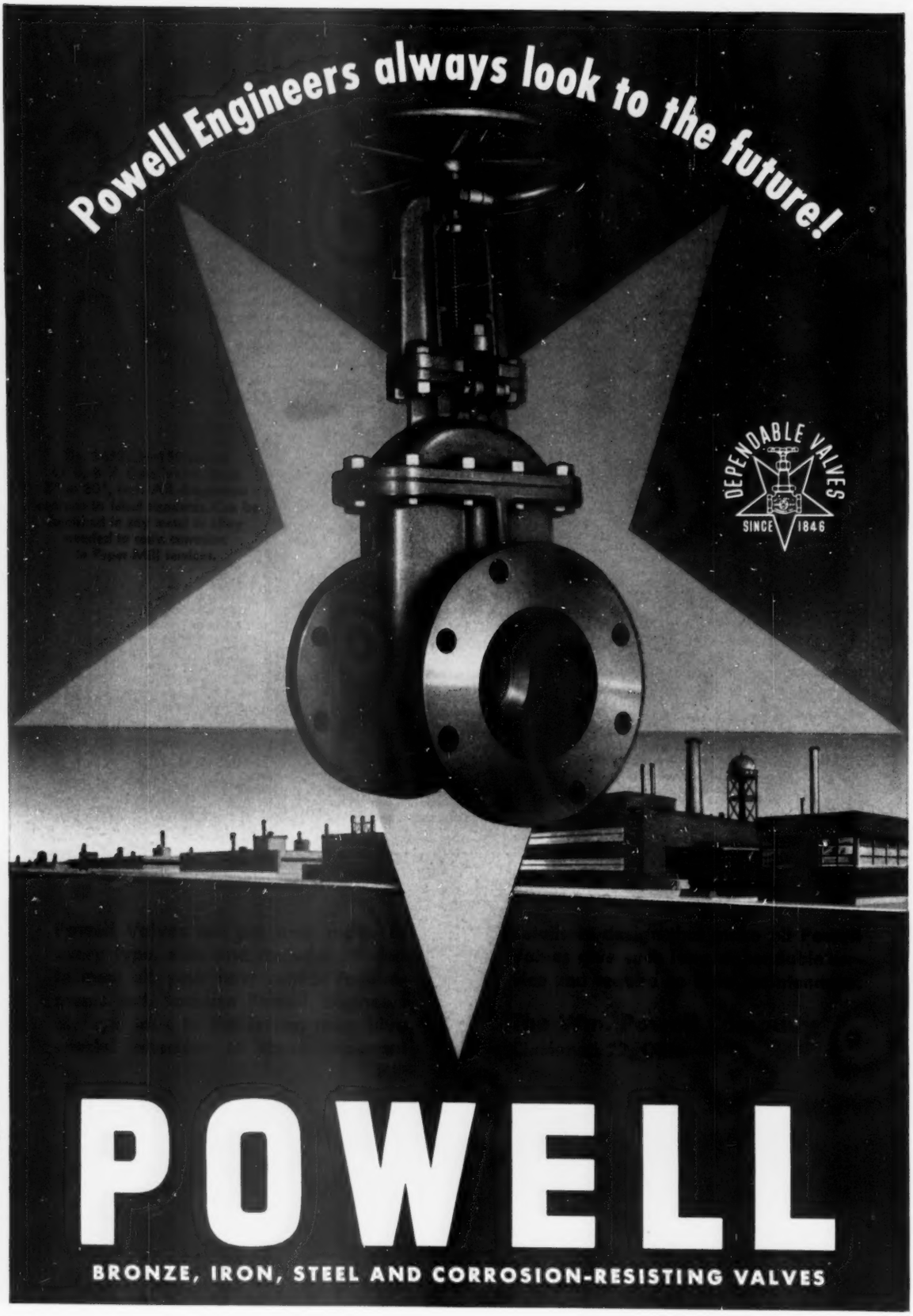
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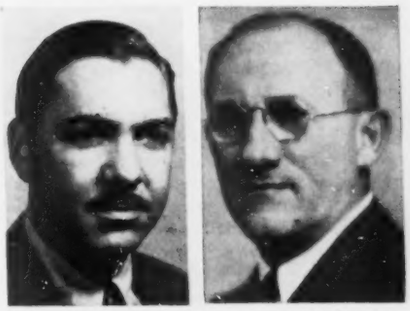
PAPER WEEK PERSONALS

From a reporter's notebook at 1953 Paper Week . . . awarding of TAPPI's Gold Medal to ROGER C. GRIFFIN, renowned in technical circles for his book "Technical Methods of Analysis," was widely applauded. Mr. Griffin, a veteran New England technical leader is in his 70th year and has been in poor health recently. . . . Ex-Major BILL BECKETT of the U. S. Air Force, executive v. p. of Beckett Paper, Hamilton, O., was welcomed back by old friends in the Pulp Consumers Association which he formerly headed . . . HAROLD R. MURDOCK has organized the Harold R. Murdock Associates, Southeastern factory representative, in Atlanta, Ga. (3105 Roswell Rd. N.E.) . . . IRVING McNAIR, now resigned as manufacturing vice president of The Northwest Paper Co., described his plans for retirement at a home he has purchased at Wickenburg, 125 miles north of Phoenix. MACE HARRIS, long his good right arm at Cloquet, is now manager of all manufacturing at that mill . . . IRVING's son, DAVID McNAIR has joined the staff at Beloit Iron Works. He got valuable experience in Weyerhaeuser's Longview operations . . .

GUNNAR NICHOLSON, Union Bag, and MILAN BOAX, Northern Paper Mills, stop after a look at the extensive exhibit put together for Paper Week by the Community Relations Committee of APPA.

DON SEELY, formerly assistant to the general manager at Fraser's Edmonston, N. B., mill, was one of a large number of Canadians down. He is now in pulp sales for Fraser in Montreal . . . CLIFF PATCH, Eastern Corp.'s technical director, and H. E. (HEP) PRATT, Pejepscot's general superintendent, traded notes from away back when . . . PAUL HAGGERTY, of Geo. La Monte Co., showed many a delegate his big album of many pictures taken at the recent testimonial to HELEN KIELY, retired American Writing Paper technical director . . . HAROLD BUGBEE, Boston advertising man and longtime editor of Bird Machine's "Stuff Box," said that little publication has been published for 340 consecutive monthly issues (over 28 yrs.) and that's probably some kind of a record for consistency for that kind of a periodical. Mr. Bugbee took it over very shortly after BILL WHEELWRIGHT had started it . . . "RED" MACDONALD received congratulations on his 25 years of managing TAPPI affairs . . . BURKE MORDEN, president of Morden Machines, and his wife brought their son Dale all the way from Portland, Ore., as his 11 years just made him eligible for the lower railroad fare, and he had a lot of "musts" to see . . . MANSON SUTHERLAND and Mrs. Sutherland were hosts at the Lexington and hoping in another month they could be on their boat down South . . . BILL GREENE, SR., of Stowe Woodward and Mrs. Greene left the last convention day for Naples, Florida, their winter home . . . SAM DAUMAN, vice president of Gottesman & Co., was rounding out his 37th year in the pulp and paper industry . . . and ELI DE VRIES, who heads a firm under his own name in New York and also Holland Paper Industries of Amsterdam, has rounded out 50 years . . . soon after a visit with CHARLEY BARTON of Rice Barton, Mr. de Vries sailed for Europe where he also represents that machine builder . . . ALBERT MERRILL, of Chemipulp Process Inc., and DR. CHARLES A. POHL got together as veteran Clarkson College patrons. Dr. Pohl has been on the college board since 1925 and he is a partner in Bogart & Pohl, consulting engineers, 420 Lexington Ave., New York . . . ROLLY McCULLY, who used to be with Weyerhaeuser on the Pacific Coast and was a Shibley prize author one year, was on hand as a representative of Armour Research Foundation of Illinois Institute of Technology with his chief, L. C. KINNEY, assistant chairman of its chem. and chem. eng. dept. . . . KEN YOUNGCHILD, now heading up the big Southern region for American Cyanamid Paper Chemicals Dept., blew into the big city with a large supply of Alabama camellias. Ken had just moved with Mrs. Y. and their three children into their new home at Spring Hill, near Mobile . . . GERALD ALCORN, though busy rushing work on the new Weyerhaeuser kraft pulp mill at Everett, Wash., where he is construction engineer, managed to make the meeting . . .WALTER HOLZER, who is now general chairman of TAPPI's research development division and was made liaison with CrownZ's manufacturing v.p. for the Camas research center, had some tales to tell of Finland and other countries he visited . . . KARL ELDERKIN, now moved to Calhoun, Tenn., reported good progress on the Bowater mill there. He had been in Greenville, Sirrine's headquarters . . . T. E. DETCHER was on hand in his new role as vice president of engineering and aid to MURRAY BENNETT in Chemical Linings at Watertown, N. Y. Ted Detcher is widely known for his work in ammonia pulping development and other industry activities . . . others back from Europe were DON J. MacLAURIN, chief of the pulp and paper section at the Institute of Paper Chemistry and formerly

MOVE UP IN M & O



ROBERT FAEGRE (left), just 37 years old, has been elevated to Executive Vice Pres. of Minnesota & Ontario Paper Co. by its board, succeeding C. T. McMURRAY (right), who became Senior Vice President and continues as a Director. Son of Pres. J. B. Faegre, Bob Faegre was born in Minneapolis, graduated from Dartmouth, served as Lieut. in Navy in South Pacific and also has been active in planning markets for new M & O paper and fiber products. He was elected Pres. of the Groundwood Mfgs. Assn. He started with M & O in 1938. Mr. McMurray, born in Belfast, Ireland, in 1891, came to the U. S. in 1900, and was in railroad field when he joined M & O in 1918.

with Powell River, and VANCE EDWARDES, veteran New York consultant, and DAVE DeZURIK, the regulator and valve man . . . DR. HARRY LEWIS, dean of the Institute of Paper Chemistry, was talking in a whisper, being a casualty in the cause of the industry for he had been making numerous college speaking engagements to woo students in this industry . . . CLIFF CRAWFORD, president of Black-Clawson, headed a big delegation from that company and its divisions—22 men in all—and they were celebrating the opening of B.C.'s new New York office at 250 Park, its first office in the metropolis . . . ED TUCKER, president of Stebbins was down for one day from Watertown and TOMMY KETTLES, head of Canadian Stebbins also was on hand with their cohorts, and they were celebrating Stebbins' 50th corporate anniversary . . . HARRY MOORE, president of Beloit, was re-elected to the presidency of the Pulp and Paper machinery association. Mrs. Moore, who hasn't very often been to meetings with Harry, took in New York City too . . . LON SUTHERLAND was off on a trip to Britain, France and Italy where Sutherland refiners were going in more mills, DOUG, and their father, as previously noted, were on hand . . . during the convention, news broke that Anheuser-Busch had bought the St. Louis Cardinals and one New York paper made a splurge over the fact a competing beer, Giedesick, had the radio and television rights there. TATE ROBERTSON JR., corn products sales chief, CARL HOELDERLE, BOB LEMIEUX and KEN BATTENFIELD, all at Paper Week could have pointed out, however, this is consistent with liberal Anheuser-Busch policies to help other breweries in their research, on the theory the more beer is sold helps them all . . . from Denmark came SVEN AHRENKILDE of the Graphic College there . . . from South Africa came H. W. KROPHOLLER and a Hindu was there too, KRISHNA KHANDELWAL . . . BILL

HENDERSON, manufacturers' representative at Pensacola, Fla., brought Mrs. Henderson and they couldn't get enough of walking around Manhattan . . . GUS HELLSTROM came down with his son from Montreal . . . incidentally, a large Swedish pulp delegation arrived in time for the big week, and with plans of what to do when the ice breaks up in the Baltic in May and shipping resumes . . . in the matter of catching shows, Mrs. JIM HARRISON (he of Michigan Carton) didn't do at all bad and quite a few others saw "South Pacific" for the first time and other hits . . . delegates interested in plans for new proposed VALENTINE bagasse pulp and paper mill in Lockport, La., learned that the consulting engineer for that job is ED POWELL of Chattanooga, Tenn. . . . JACK KIMBERLY, though he has been exec vice president for several months now of Kimberly-Clark, received congrats from many friends he had not seen since it happened . . . HARRIS C. MILLER, Hooker Electrochemical, had been transfered back to New York City permanently from Niagara Falls, so it was no trick for him to make the meeting.

. . . *TOM BUSCH*, Southern Kraft, I.P. who has already contributed sensationally to developments in pulpwood handling (Evans-Busch trailer, etc.) intimated to APA colleagues other important developments are in the offing . . . *HENRY PERRY*, director of the Waste Paper Utilization Council, doing a bang-up job handling APPA's press relations at the Waldorf . . . *JOHN CHANDLER*, now with Hank D. Jones, and his wife, showed color pix of the alluring Chandler cabana on Atlantic beach near Jacksonville. . . . Lanky *DOUG PHILBROOK*, formerly manager of the Northeast Pulpwood Research Foundation and now engineering woods handling equipment for IMPCO—one wonders how he folds his legs into his Jaguar, in which he has taken many industry men on never-to-be-forgotten rides over White mountain roads . . . *W. D. STITT*, vice president of Buckman Lab., turning out to be a cousin of *CLAUDE STITT*, of Fibreboard's Antioch Division . . . *SYDNEY FERGUSON*, at a Waldorf press conference, graciously submitting to questioning, including a question to end all questions: "If we are not running out of wood, Mr. Ferguson, does that also mean we are not running out of bagasse?" Speaking of press conferences *SENATOR CAPEHART* will be long remembered, but not well, for his attitude towards the press at his Waldorf meeting with them . . . *GUNNAR NICHOLSON*, Union Bag, and *MILAN BOAX*, Northern Paper Mills, stopping appropriately in APPA's Community Relations exhibit hall to discuss job training. Nicholson is selecting men and working carefully to develop a program to handle this important problem for his company . . . *BILL DARMSTADT*, Babcock & Wilcox, having to check out early because of illness at home . . . *NORM STONE*, *JOHN McPHERSON*, and others friendly hosts in the Mosinee suite at the Waldorf, while *HENRY CRANDALL*, technical director, showed samples and pictures of new mold-resistant papers which may have important industrial applications . . . *TOM BURKE*, secretary-treasurer of the Sulfite paper group, receiving praise for the excellence of accounting procedures established through his efforts . . . *R. E. McARDLE*, shaggy chief of the U. S. Forest Service, breaking speed records through the lobby on way to pulpwood and forest policy meetings . . . Good news from *BOB RAMSDELL*, Hercules, that his wife, Marge, is recovering from a serious illness. Bob is one of leaders in New England TAPPI . . . *HY RAMMER*, Fibreboard technical director, piling in at 3 a.m. after a long story-telling session with starch salesmen . . . the fine reception by Perkins-Goodwin at the Park Lane with *ED McSWEENEY*, *LLOYD SCHENECK*, A. J. Feiler, Louis Calder, Jr., Dick Worthen, Harry Kraft as hosts . . . *CHARLIE PAINE* and *BILL EGGLESTON*, Eastern Corp., recalling a PULP & PAPER automobile trip across frozen Dobsis lake in Eastern-Dead River country above Bangor in January . . . *DURWARD "WOODIE" GEFFKEN*, husky chief chemist at Oswego Falls, stopping long enough from a National Council for Stream Improvement meeting to lay down a challenge for an early golf meeting . . . *BILL CHISHOLM*, vice president of Oxford, agreeing with *GLEN AMOS*, assistant APPA secretary, that the industry's own forum speakers at the Waldorf have outshone the nationally known "outsiders" brought in to speak during Paper Week . . . *KEN TROWBRIDGE*, woodland chief for N. C. Pulp and Paper Co., telling about his "vacation" trip to Montana to *CLYDE MARTIN*, Weyerhaeuser woods chief, *C. S. "PAT" HERR* of Brown Co., also listening in, and wearing invisibly and modestly his new title of vice president . . . *STANLEY BLANKINSHIP*, vice president of Perkins-Goodwin, convulsing a table at the Pulp Consumers luncheon by his account of the time in his youth when he staged an international ski tournament in New England. . . . *JIM MADDEN*, president of Hollingsworth and Whitney, having a tough time dovetailing all his forestry interests and duties with his equal interest in pulp and paper policy meetings—but doing . . . *LAURENCE WHITTEMORE*, president of Brown Co., creating enthusiasm for his latest extra-curricular, but very vital, activity: heading up the New England Council . . . *WILBUR GILLESPIE* of Gaylord Container and ex-Tappi president, tripping youthfully down the lobby stairs of the Commodore on his way to a very early breakfast . . . *T. C. BANNISTER, JR.*, pulp mill superintendent of Hollingsworth & Whitney's big new mill at Mobile stopping by to ask for special copy of February PULP & PAPER containing the exclusive story on operations.

SODERBERG **DETCHER**

FREDERIC A. SODERBERG (left), named Vice Pres. of F. C. Huyck & Sons, in charge of sales of papermaker felts and mechanical fabrics, at Rensselaer, N. Y. He had been Manager of the Industrial Div., General Dyestuff Corp. He has been a Chairman of the Superintendents Industrial Affiliates, a past Pres. of Commercial Chemical Development Assn., and he is credited with having conceived the idea of the Maine Pulp & Paper Foundation. He was born in Lowell, Mass., graduated from Maine, and started at the I. P. Rumford, Maine, paper mill as broke handler, beater engineer and development engineer. T. E. DETCHER (right), who has been appointed Vice President in Charge of Engineering of Chemical Linings, Inc., Watertown, N. Y., according to Murray Bennett, President of that company. Mr. Detcher has had a varied experience in the pulp and chemical supply fields of this industry, particularly in recent years in development of ammonia base pumping, having written articles on that subject and worked close to new developments.

APPA 1953-4 Board

Board of Governors American Paper and Pulp Association 1953-54:

Sydney Ferguson, Mead Corp., president; D. S. Leslie, Hammermill Paper Co., first vice pres., and the following vice presidents: M. D. Bardeen, Lee Paper Co., Vicksburg, Mich.; Alexander Calder, Union Bag & Paper Corp., New York; Hugh J. Chisholm, Oxford Paper Co., New York; R. K. Ferguson, St. Regis Paper Co., New York; Hugo H. Hanson, W. C. Hamilton & Sons, Miquon, Pa.; J. H. Hinman, International Paper Co., New York; J. R. Kimberly, Kimberly-Clark Corp., Neenah, Wis.; David L. Luke, Jr., West Virginia Paper & Pulp Co., New York; J. L. Madden, Hollingsworth & Whitney, Boston, Mass.; Reuben R. Robertson, Jr., Champion Paper & Fibre Co., Hamilton, O.; Vertrees Young, Gaylord Container Corp., Bogalusa, La.; C. B. Morgan, Raynoir, Inc., New York; G. J. Ticoulat, Crown Zellerbach Corp., San Francisco, Calif.; Folke Becker, Rhinelander Paper Co., Rhinelander, Wis.; and J. L. Camp, Jr., Camp Mfg. Co., Franklin, Va.

Biggest Reunion Ever For Paper Chemistry Institute

The Institute of Paper Chemistry, of Appleton, Wis., was so well represented by faculty and alumni at Paper Week in New York that it was able to stage its biggest reunion ever. A total of 110 attended the dinner held at the Lexington hotel with Westbrook Steele, president, Dr. Harry Lewis, dean, and others attended.

They said that more than one-half of them graduates and others from the institute who are now in the industry were present. The new general activities building at Appleton and other news about the institute were discussed.

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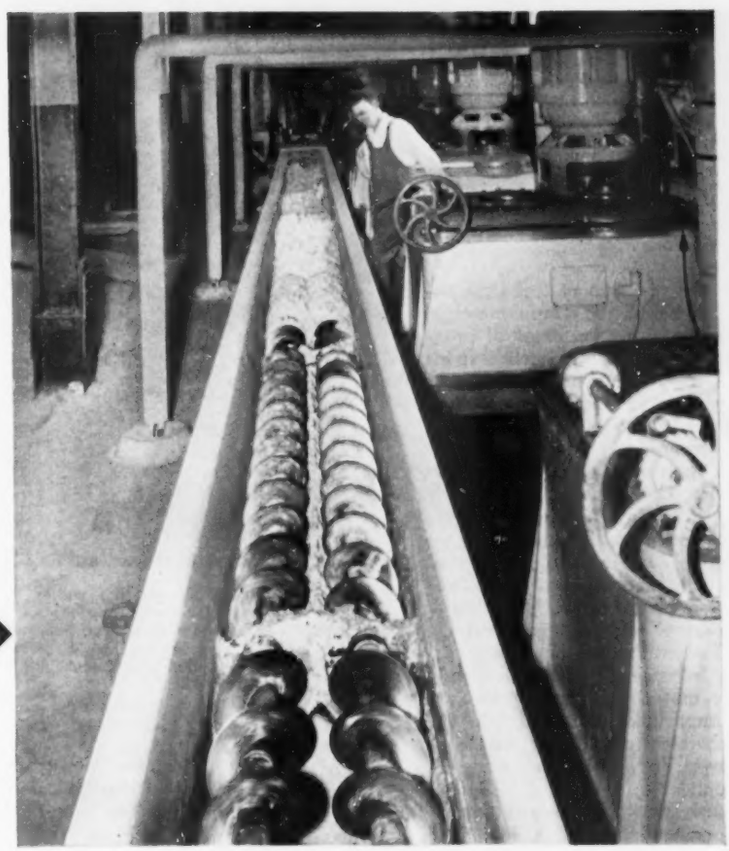

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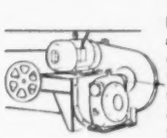
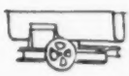


DRIVES—Link-Belt designs and builds many forms of drives to suit specific conditions—enclosed gear, Electro-fluid, P.I.V. variable speed, and chain drives of various types.



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A REVIEW OF TAPPI PAPERS

AN EVALUATION OF THE NEW YORK TECHNICAL MEETING

By George H. McGregor
Of Minnesota & Ontario Paper Co., International Falls, Minn. A former long-time TAPPI Committee Chairman and leader in many New York meetings.

PULP & PAPER invited Mr. McGregor, a veteran of many Paper Weeks in New York and a veteran leader in the technical activities of this industry, to write this review of the technical side of 1953 Paper Week. His qualification as a commentator on this phase of Paper Week is recognized widely, for he has had unusually broad experience in many phases of the industry—with leading companies in both the Far West and Middle West.

ONCE AGAIN the program of technical papers presented before the annual meetings of TAPPI serve as a barometer of progress within the industry. Of particular interest were papers indicating alterations and improvement in engineering designs and techniques.

The manufacture of pulp and paper involves wide application of the principle of mechanical and chemical engineering, and chemical reaction. In the field of groundwood or mechanical pulp manufacture, we are constantly alert to such subjects as stone structure, speed, horsepower requirements, species of wood, condition of wood, pressures and temperatures of grinding, all according to the pulp qualities desired. In the field of chemical pulp manufacture, materials of construction are of utmost importance as related to the particular chemical conditions prevailing. Chemical engineering principles are particularly applicable, involving temperatures, pressures, flow rates, related to materials of construction. In this field also, chemical reactions are of paramount importance. In alkaline pulping it is recognized that the most important function is a definite chemical reaction between lignin and a definite chemical to form soluble components easily separated from the more stable component, cellulose, the product we are definitely trying to produce. In sulfite pulping, the system is one of definite acid condition involving the reaction between a bisulfite acid and lignin, to leave the more resistant cellulose as our objective. In either an alkaline or acid system, we are faced with the application of rather drastic conditions of temperature and pressure, so balanced as to cause required reaction of lignin and chemical, leaving the cellulose in as stable a state as possible.

Subsequent handling of cellulose, or pulp, involves application of definite principles of mechanical engineering, materials of construction, flow rates, quantities, etc. The recovery of chemicals in alkaline pulping definitely entails broad principles of chemical engineering. Evaporation, burning, and remanufacture of cooking liquor involves materials of construction, reaction rates, temperatures, and pressures.

GEORGE McGREGOR, who has written this evaluation and commentary on the TAPPI meetings in New York. He cites semi-chemical developments and a high yield pulping process for newsprint among highlights of the sessions.

In bleaching pulps, we are definitely faced with principles of mechanical engineering and chemistry. The handling and transfer of pulps in the bleaching operation calls for specialized equipment resistant to the chemical system involved, and efficient particularly for transfer or flow through the system. The bleaching reaction itself is drastic chemical action and, as such, should receive the closest scrutiny. Particularly is this so, since cellulose in general is very sensitive to usual bleaching chemicals and reaction conditions. In removal of residual lignin compounds, a conversion to white, or semi-white colors, condition of temperature, time, liquor concentration, and type of bleach liquor, all are of extreme importance, especially to preserve inherent strength characteristics of the cellulose, while at the same time removing foreign constituents.

The conversion of pulps to the numerous grades of paper involves the application of principles of mechanical engineering to a great extent. The handling of a very lightweight product such as paper, on massive machinery such as a paper machine, calls for precision of movement and integration of connecting units as well as constant alertness on the part of operators. The structure of various papers today involves utilization of numerous additives imparting specific properties to the final sheet, yet complicating handling of the complete system and conversion to an acceptable product. The drying of a sheet of paper involving separation of water from the cellulose is a critical operation primarily due to the fact that, of all the conditions of pulp and paper manufacture, cellulose is more sensitive to heat than any of the other conditions. Thus, care and control are of major importance in paper preparation.

In normal separation of cellulose from wood and conversion to paper, the basic constituent is subjected to four basic manufacturing conditions; namely, acids, alkalies, bleaching agents, and heat. It has been demonstrated that cellulose is most sensitive to heat, a little more resistant to active oxidizing agents such as bleaching agents, and most resistant to acids and alkalies; thus, extreme care should be exercised in drying paper, considerable care should be exercised in the bleaching reactions, whereas we are allowed considerable latitude of temperature, pressure, and chemical use, in the pulping operations for preparation of various pulps from existing wood species.

Water

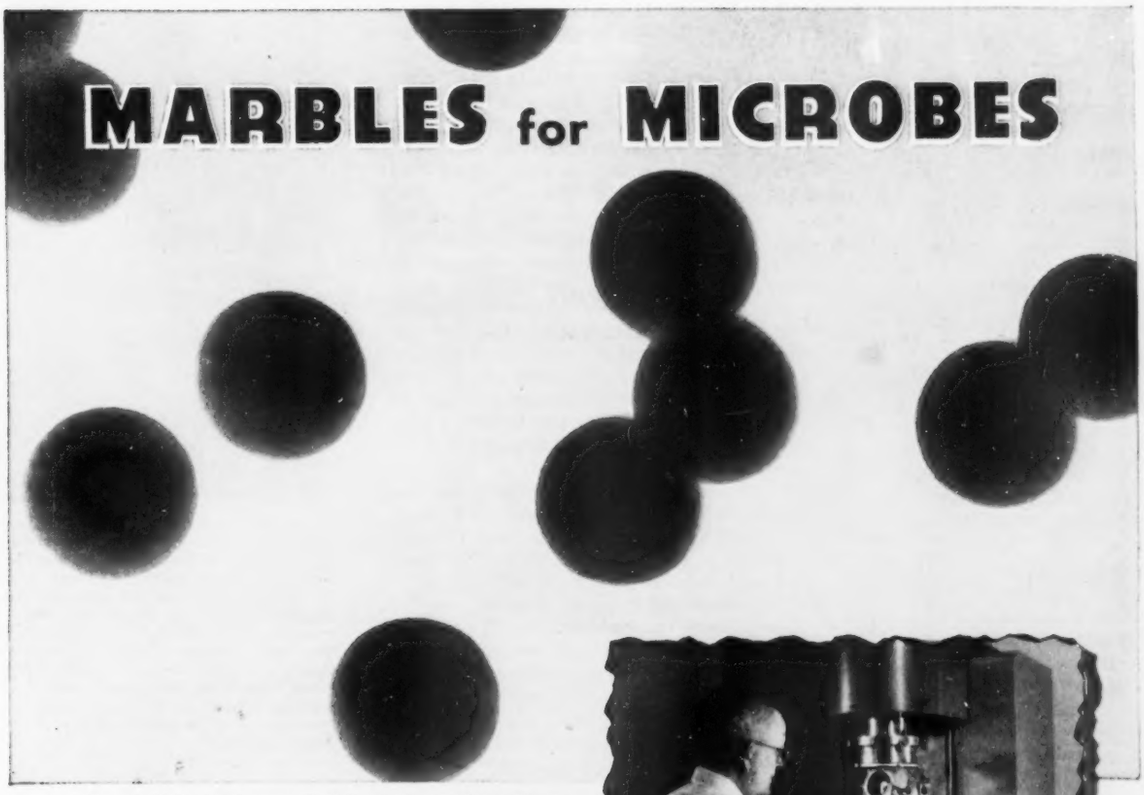
The subject of "water" in pulp and paper manufacture is of importance, serving primarily as the transportation medium for pulp and paper making materials. Two papers were timely; namely, "Water for Paper Making, Past, Present and Future," and "Application of Ground Water Supplies." In the first paper it was noted that:

"Public attention to the water problems and methods of water use in the U.S. is on the increase. In considering water needs for the future, numerous factors are important. The waste disposal situation is already being faced realistically, but will become more of a problem. Regardless of changes in national needs, long range views indicate closer control over water supplies and uses. Technological advance is the most important factor affecting future water needs."

In the second paper it was pointed out: "During the past 25 years, use of ground water has increased tremendously throughout the U.S. This trend has created many complex and intricate hydrologic problems."

The water committee of TAPPI is assembling data on water use by means of a questionnaire sent to all pulp, paper, and paper board mills in the U.S. This information will be soon available.

MARBLES for MICROBES



Above—100,000X enlargement of latex spheres used to calibrate electron microscope in Nalco Laboratories. Actual diameter of spheres is 0.25 microns—.00000975 inches! *Right*—Inserting specimen holder in vacuum chamber of Nalco electron microscope.

. . . How they assist research toward better Water Treatment

PERHAPS even too small to make good marbles for microbes, these tiny spheres help Nalco Scientists in their investigations of the microscopic realms of matter only recently made visible to the human eye by the electron microscope.

Use of the electron microscope in water treatment research is significant because it typifies the continuing efforts of the entire Nalco organization to keep the Nalco System representative of the first and best in all phases of modern industrial water treatment.

If you are not already participating in the economy and efficiency of the Nalco System in your plant, write for details on real water treatment security today.

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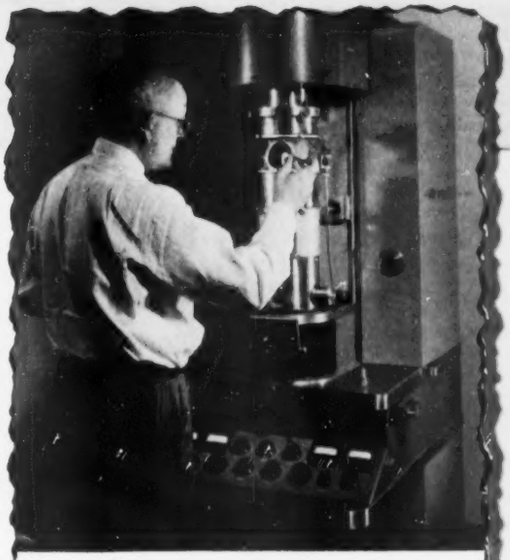


Nalco WATER TECHS

New reprint of A.S.M.E. Paper No. 52-A-30: *Experimental Studies of Boiler Tube Metal Temperatures: Effect of Heat Transfer Rate and Deposit Thickness*, gives technical data on high-heat-transfer-rate effects (140,000 to 300,000 Btu/sq. ft./hr.) at pressures from 250 to 2500 p.s.i. 16 pages, with tables and diagrams. Author: C. Jacklin, Director, Engineering Research, National Aluminate Corporation.

Your Copy Free Upon Request

Pulping

Pertinent and timely papers were presented on pulping, involving alterations to existing processes; chemical engineering problems relating to equipment construction and stability; corrosion problems; use of waste materials, higher yields by normal cooking, and the extremely interesting, expanding field of semi-chemical pulping.

In sulfite pulping, attention was given high capacity pulp screens, pulping with sodium sulfate liquor, ammonium bisulfite pulping, sulfur usage and distribution, sulfite digester relief gas recovery of ammonia, use of spent liquor in reconditioning asphalt road surfaces, and finally—what should prove to be a definite commercial advancement—the development of 65% yield sulfite for newsprint furnish.

High capacity screens and centrifugal type pulp cleaning equipment are receiving careful attention. A recent development in centrifugal type cleaning will receive careful consideration in the very near future.

An interesting paper involved removal of dirt and gases from pulp stock suspensions. The authors indicate: "The presence of gas in paper making stock has for some time been considered undesirable. A new method of gas removal has been developed utilizing the Vortrap. It has been found that if the tangential velocity head be raised and pressure reduced within the separating tube of a Vortrap, the stock may be kept on the wall and a vacuous core exist in the center. Due to reduction in pressure, gas in the stock forms bubbles, which, together with any bubbles which may have initially existed, are displaced to the central core by centrifugal force. Gases may hence be removed from stock by applying a vacuum pump to the core of stock by applying a vacuum pump to the core of the new Vortrap. The changes in hydraulic conditions made to achieve this result are also favorable for better dirt separation. A modified Vortrap has been developed which gives highly efficient separation of gases and dirt simultaneously."

A stimulating paper was on acid pulping of sodium sulfate liquors. As part of discussion the author states: "In U. S. Patent 1,427,125 the author disclosed a pulping procedure that depends on digestion of wood in liquors that contain free sulfur dioxide and soluble sulfates. It was shown a satisfactory substitution of the sulfate for the sulfite can be accomplished without resorting to abnormally high percentages of free sulfur dioxide and with cooking pressures and time periods not far distant from those ordinarily employed in orthodox bisulfite pulping. It was also revealed that the quality of resulting pulp is equal to that obtainable with bisulfite liquors and that a sulfate, containing cook liquor, offers a simpler means for chemical recovery than is possible in the case of the prevailing sulfite cook procedure."

Ammonia base sulfite pulping continues to receive careful consideration. It offers certain advantages in handling of raw materials, preparation of cooking acid, evaporation of spent liquor, and recovery of heat and chemicals. Any decision by mill management to change from calcium base liquor to ammonia, magnesium, or soda base liquor, still calls for careful analysis of factors relating to place of mill, availability of raw materials, and extent of alterations necessary. There is little or no question concerning the quality of pulp resulting from use of other bases.

An informative paper related to evaporation of ammonia base spent liquor and recovery of ammonia. The authors report: "Overall heat transfer coefficients varied from about 150 to 300 BTU's per hour, per sq. ft., per degree Fahrenheit, as the solids content of the liquor varied from 15 to 40% and as the linear velocity of liquor in the tubes varied from one to five feet per second. Within the range of this investigation the size of the coefficient was directly proportional to the apparent velocity of liquor within the tubes and inversely proportional to the concentration of solids. No objectionable precipitation of solids or fouling of the tubes was observed. Serious pit corrosion of the stainless steel vapor space, particularly where clad to mild steel, was experienced during the evaporation of sulfite liquor alone."

An interesting paper was on use of spent liquor on road surfaces. The authors indicate: "Reformation of worn asphalt or black top road surfaces has been promoted by inexpensive applications of spent sulfite liquor during grading operations. Practical road tests in Wisconsin have shown secondary roads in advanced stages of raveling can be reworked with a grader to pulverize and redistribute the old surface material after which spent liquor application from trucks serve to accelerate formation of a new tight bituminous surface within a few days. Such reformed surfaces, without new asphalt binding material, stood up well through a Nothern Wisconsin winter and spring breakup. Optimum conditions for spent liquor application are under study by the Sulfite Pulp Manufacturers Research League, Inc."

High Yield Sulfite Pulp

One of the outstanding papers of the convention, indicating a definite commercial advancement in pulping, described development of 65% yield sulfite for newsprint furnish. The authors reported: "A mill scale pilot plant which had produced news grade sulfite pulp of 63 to 65% yield for nearly 3 years . . . extensive commercial tests proved that the pulp was entirely satisfactory . . . newsprint made with it is fully equal to that made with normal yield sulfite. A plant now under construction will provide full sulfite requirements as high yield sulfite for manufacture of over 700 tons per day of newsprint."

It is the writer's feeling that the preparation of high yield pulps, using normal pulping chemicals, presents a real challenge and opportunity to every research institution interested mainly in pulp and paper. Numerous normal applications of techniques must be investigated; concentration and volume of chemicals, cooking schedules, handling pulps after digester, properties of resultant pulps, and finally their application to normal grades of papers. Such field of investigation calls for utmost sympathetic cooperation between the investigating department, pulp manufacturing department, and paper maker. Its success will go far toward wider utilization of our basic raw material and insure continuity of the industry.

NEKOOSA-EDWARDS PROMOTIONS

TOP—RICHARD A. NUGENT (left), former Manufacturing Supt. of Nekoosa Mill, Nekoosa-Edwards Paper Co., who has been assigned new duties in expansion and improvement for both Nekoosa and Port Edwards Mills, and will be in close contact with scheduling, planning, engineering and operations personnel. DR. CHARLES M. SIGVARDT (right), named Gen. Supt., Nekoosa (kraft) Mill, taking over Mr. Nugent's former duties. Mr. Nugent has been with Nepco since 1928; Dr. Sigvardt joined in 1951, coming from Celotex and earlier was with Scott. A Montana State grad, he got his ph.d. at the Institute of Paper Chemistry.
BELOW—DR. TRUMAN A. PASCOE (left), made Research Director, and DR. HERBERT W. ROWE (right), who succeeded him as Tech. Director. Dr. Pascoe's degrees are from U. of Minnesota, and he joined Nepco in 1936 after being Research and Tech. Director at The Northwest Paper Co. Dr. Rowe, a grad of the Institute and Wabash, joined Nepco in 1939.

Alkaline Pulping

The subject of alkaline pulping was covered in much greater detail at the Alkaline Pulping Meeting at Mobile, Ala., in the fall. At New York, alkaline pulping digester corrosion received particular attention. One paper said uneven corrosion in alkaline pulping digesters apparently was due to boiling action on the metal surface when small quantities of liquor contact the hot digester shell. Remedies involve use of a specially designed metallic digester liner, or admission of the filling liquor at the bottom of the digester rather than at the top.

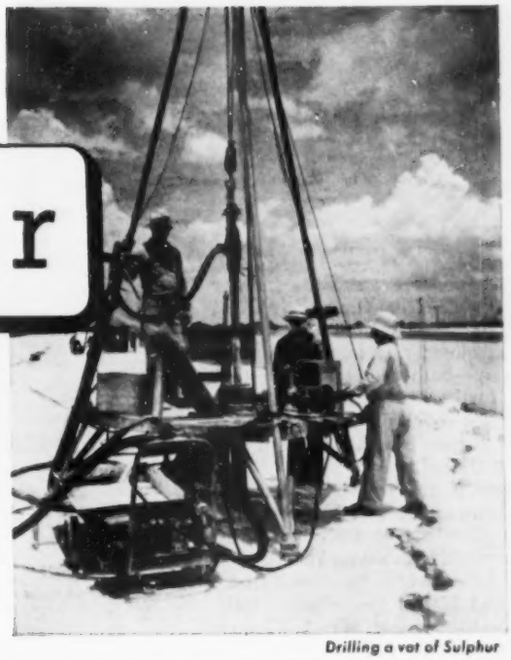
One paper indicated carbon steel kraft digesters generally gave good service life up to 1934-35. Since then, undetermined changes have been made which seemed to cut the life to as little as one to two years. Another dealt with pressure vessel steel specifications and it was said "large plates of high tensile, silicon killed steels are being used to take advantage of fabrication economies in the building of large digesters."

Semi-Chemical Pulping

The extreme interest indicated in semi-

(Continued on page 92)

Sulphur



Drilling a vat of Sulphur preparatory to blasting down

Thousands of tons mined daily, but where does it all go?

All through the open seasons—spring, summer and fall—homes everywhere are being painted, old houses as well as new getting much needed protection from the elements. It's an activity seen by millions but few realize how important Sulphur is to this phase of our domestic economy. Actually, it's an essential commodity.

That's right. Paint pigments constitute one of the largest individual consumers of Sulphur . . . in the form of sulphuric acid. Government statistics show that for the year 1950 some 1,260,000 tons of 100% H_2SO_4 were consumed by producers of lead, zinc and titanium pigments. Translated into Sulphur, this means around 400,000 long tons which is a lot of Sulphur! In fact, the pigment industry stands 5th on the list of the many industries that consume Sulphur in one form or another during their manufacturing processes.

The Sulphur Industry indeed has many mouths to feed, all important to our economy and standard of living.

Texas Gulf Sulphur Co.

75 East 45th Street, New York 17, N. Y.

Mines: Newgulf and Moss Bluff, Texas

NORTHERN'S MERGER INTO MARATHON CORP.

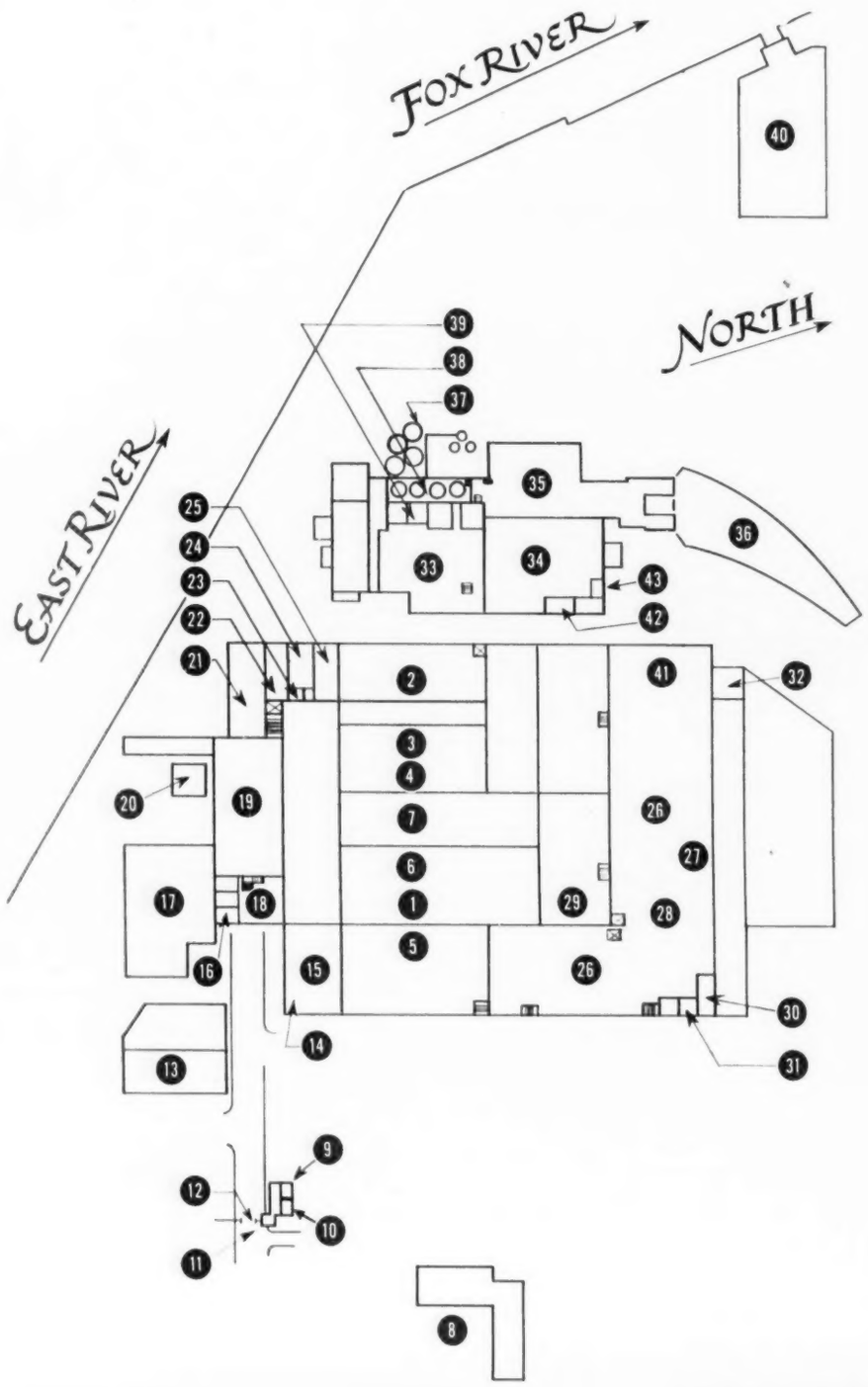
BOTH GAIN STRENGTH

As industry observers see the merger of Northern Paper Mills, Green Bay, Wis., into the far-flung Marathon Corp., it is considered as aimed at strengthening the latter company—both companies, for that matter—by further extension into consumer products, more diversification and a merging of timber holdings in both Canada and the United States.

The familiar Northern trade name on tissue, towel and napkins will be retained. Merged into Marathon is a 230-ton daily capacity paper mill with seven Fourdrinier machines; a 140-ton bleached-unbleached sulfite mill and 55-ton groundwood mill. In 1949 it added a new No. 1 Yankee Fourdrinier; in 1951, its giant 172-in. No. 5 Yankee Fourdrinier.

Marathon and Northern cooperated closely in publicizing the merger, jointly announced by John Stevens, Jr., Marathon president, and Milan Boex, Northern president. They first off announced to their own employes that joining of forces would mean capitalizing on a half century's experience in both companies—Northern was founded in 1901; Marathon in 1909. Northern has 1,100 employes; Marathon, 8,500.

Mr. Stevens recently moved his head-



THIS DRAWING SHOWS NORTHERN PAPER MILLS PROPERTIES WHICH HAVE BEEN merged with Marathon Corp. Identifications of the different departments or units are:

1. No. 1 Paper Machine
2. No. 2 Paper Machine
3. No. 3 Paper Machine
4. No. 4 Paper Machine
5. No. 5 Paper Machine
6. No. 6 Paper Machine
7. No. 7 Paper Machine
8. Main Office
9. Pay Roll Dept.—1st Floor
10. Personnel Dept.—1st Floor
11. Guards
12. Main Gate
13. Warehouse
14. Engineering Dept.—2nd Floor
15. Storeroom—1st Fl.
16. First Aid—1st Fl.
17. Boiler Plant
18. Mill Lobby—1st Fl.
19. Machine Shop—1st Floor
20. Machine Shop Office
21. Crane Shed
22. Mill Office—2nd Fl.
23. Paper Mill Tour Boss Office—2nd Floor
24. Laboratory—2nd Fl.
25. Paper Mill Locker Room—2nd Floor
26. Converting Dept.—2nd Floor
27. Shipping Dept.—1st Floor
28. Core Room—3rd Fl.
29. Print Shop—3rd Fl. —Sample Room —2nd Floor
30. Converting Dept. Machine Shop—2d Floor
31. Finishing Rm. Foreman's Office—2nd Floor
32. Converting Dept. Supt's Office—2nd Floor
33. Screen Room —2nd Floor
34. Groundwood Mill
35. Wood Room
36. Hot Pond
37. Acid Plant
38. Digester Room
39. Blow Pits
40. Sedimentation Basin
41. Napkin Dept.—3rd Floor
42. Sulfite Mill Locker Room
43. Sulfite Mill Office

IF IT'S

Tonnage

YOU'RE AFTER

Plus positive control, improved stock, greater flexibility and lower cost

E.D. Jones

Fibremaster®

IS YOUR ANSWER

The FIBREMASTER has twice the capacity of the famous Jones High-Speed Refiner. Yet its simplified, rugged design requires relatively little floor space.

And it has sacrificed none of the features of the smaller machine . . . its flexibility as a general utility unit for all stocks from news to rag, its improved stock control, economy of power, easy disassembly and low maintenance cost.

If you have a problem in high volume refining, you owe it to yourself to find out more about the FIBREMASTER.

Now Available with ACCRU-SET — automatic plug adjustment

This latest triumph of Jones engineering provides completely automatic, completely reliable finger-tip control of plug adjustment for uniform, pre-determined power throughout your stock run. Guarantees more uniform stock treatment, less operating horsepower, plus positive protection for plug and shell bars if power or stock flow fails.

Easily installed on any Jones Jordan, Fibremaster or Refiner. Write today for details.

To learn more about what the FIBREMASTER can do for your cost and quality controls, write for Bulletin EDJ-1035.

E.D. Jones

E. D. Jones & Sons Company, Pittsfield, Mass.

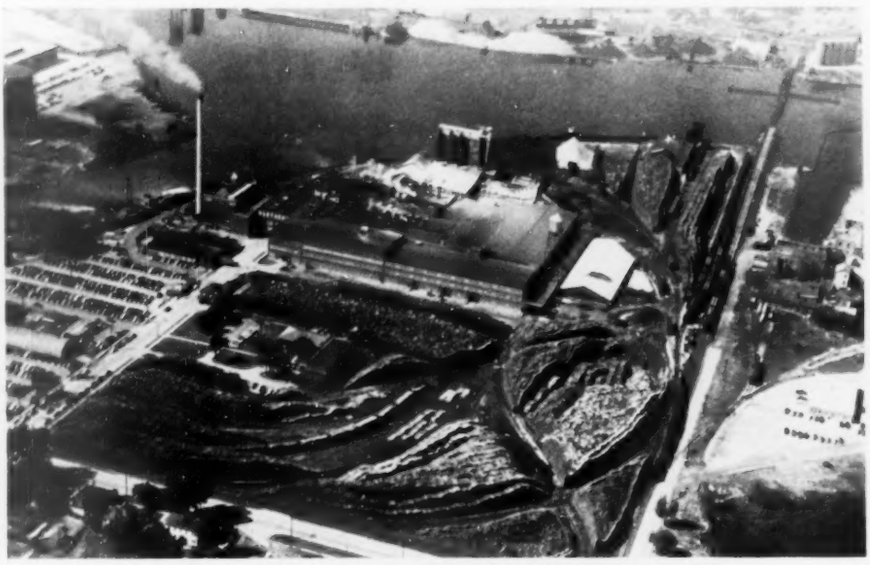
BUILDERS OF QUALITY STOCK PREPARATION MACHINERY

quarters from Rothschild, Wis., to Menasha, Wis., where Leo Croy and Roy Sund, exec. v.p.'s for sales and manufacturing respectively, are headquartered. Clark Everest, chairman, remains at Rothschild.

Recent expansion by Marathon was acquiring the 170-ton kraft board and paper mill at Oswego, N.Y., from St. Regis, and building a new food package converting plant at Sunnyside, Wash. Before the Northern merger, it listed of about 700 tons daily for Rothschild (bleached waxing, food and wrapping papers and boards); Menominee, Mich. (waxing tissue, board specialties); Ashland, Wis. (napkins, waxed and creped tissues); Menasha (waxed, plain and printed papers), and Oswego. It has a 345-ton bleached sulfate pulp mill in Marathon, Canada, and another converting plant at Wausau, Wis. Rothschild makes 135 tons bleached sulfite. In 1952, Marathon's sales exceeded $86,000,000; Northern's $21,000,000.

Under John C. Fogarty (1903-18), Perry Wagner (1918-21); Judson Rosebush (1921-35), Agner Hansen (1935-48) and Mr. Boex since then, Northern has grown and prospered. It started making sulfite pulp in 1916. Interesting is the fact that William Kelly, former mill superintendent, who moved to Oregon, and Roy Kelly, longtime Marathon superintendent and now a top manufacturing executive, are brothers. H. W. Gochnauer is a veteran chief engineer at Northern, having held that post since 1921. Ed E. Den Dooven is general superintendent.

RECENT AIR VIEW OF NORTHERN PAPER MILLS—MERGED WITH MARATHON CORP.



THIS EXCLUSIVE PHOTOGRAPH shows the principals who brought to successful consummation the merger of Northern Paper Mills into Marathon Corp. Here they are shown looking over well known paper products of the two companies which will continue to carry both names into markets. Left to right: JOHN STEVENS JR., President, Marathon; WILLIAM E. BUCHANAN, Director of Northern Paper Mills; D. C. EVEREST, Chairman of Marathon, and MILAN BOEX, President of Northern.

W. E. Buchanan Named To Allis-Chalmers Board

William E. Buchanan, president and treasurer of the Appleton Wire Works, Inc., Appleton, Wis., has been elected to the board of directors of Allis-Chalmers Manufacturing Co.

A native of Appleton, Mr. Buchanan is a director of the First National Bank of Appleton, Appleton Coated Paper Co. and of Chicago & Northwestern R.R., and a trustee of Lawrence College.

Paper Fence

In Michigan paper fences are effective in stopping snow from drifting across highways. These snow fences were made by stapling two twelve-inch strips of waterproof paper, like that used in curing concrete, to pieces of wood wired to steel posts eight feet apart.

Columbia Cellulose Adopts Dorr System

Columbia Cellulose Co., operating a high alpha pulp mill at Watson Island, near Prince Rupert, B.C., is the latest mill to install its own facilities for the production of sulfur dioxide gas by placing a Dorr Co. Fluosolids pyrites roaster in operation.

The new equipment utilizes pyrites recovered in flotation of copper ores at the Britannia Mining & Smelting Co.'s mine on Howe Sound. In the Dorrco process the pyrites is burned in a special furnace to produce the gas which is piped directly to the acid-making system in the pulp mill. Previously, the SO_2 was obtained by burning pure sulfur imported from the U.S.

W. C. R. Jones, manager of the mill, says that the new facilities assure continuous operation of the plant regardless of shortages in the world supply of sulfur.

Brackett Co. in New York Represents Heppenstall's

At New York Paper Week, Harold Wood, knife sales chief for Heppenstall Co., introduced new representatives for his company in the New York-New Jersey-Connecticut area—the John Brackett Co. of 1860 Broadway, New York 23. John Brackett, a 1938 graduate of Columbia, started the company some years ago after being a sales metallurgist for Carpenter Steel. Dick Schnaid of New York and Jack Geary, former All-American football star, of Meriden, Conn., are associated with the Brackett Co.

Heppenstall Man Elected

John P. Roche, executive vice president of Heppenstall Co., manufacturer of chipper and other knives, has been elected president of the Pittsburgh Chamber of Commerce.

It's an old American custom to dream. It's also an American habit to expect results. The Sears, Roebuck catalogue contains both dreams *and* results. For here, on every page, can be found those things, practical or desirable, necessities or luxuries which have made America, and Americans, the envy and hope of the world.

AN AMERICAN DREAM...

ON EVERY PAGE

Sears, Roebuck and Co. pioneered this American dream back in 1894. The first catalogue issued, containing 322 pages, has grown until today its 1300 pages list more than 100,000 separate items.

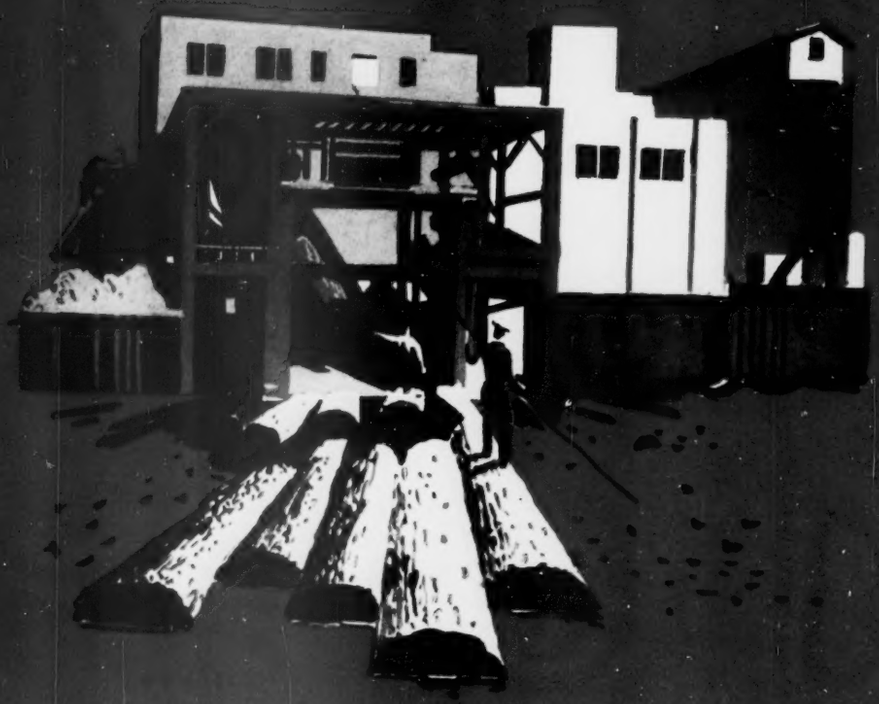
In the scientific preparation of paper for its limitless number of uses, Huyck Felts play an important part. We are proud of the confidence the paper-making industry has in our product. We take this confidence as a challenge in our own forward-looking development program.

KENWOOD TEXTILE PRODUCTS

HUYCK FELTS

F. C. HUYCK & SONS • ESTABLISHED 1870 • RENSSELAER, NEW YORK

Pacific Coast Representative: Pacific Coast Supply Co., Public Service Building, Portland, Ore., 343 Sansome St., San Francisco, Calif.



WHITER, CLEANER PULP

Puget Sound, long one of the greatest producers of unbleached sulphite wood pulp in the world, has now added fully automatic equipment enabling it to produce *bleached pulp* . . . whiter and cleaner than ever, yet retaining the long-fibre strength for which Puget has always been noted.

PUGET SOUND

PULP AND TIMBER COMPANY

BELLINGHAM • WASHINGTON

News and Notes from ▣ ▣ ▣

EQUIPMENT AND SUPPLY COMPANIES

RESPONSIBLE FOR FORMATION of Tygrotester Inc. is H. A. BRENNER (left) its President, and PAUL LIPPKE, head of Paul Lippke, Neuwied, West Germany, who developed and manufactures the new moisture testing and regulating equipment. WILLY RAU is Secretary for the U. S. company.

Brown Washer Control

Control systems combining master recorder cubicles and individual operator consoles are illustrated and described in Honeywell Instrumentation Data Sheet 2.9-22a. The sheet lists advantages of various instruments for measuring and controlling washer variables and explains the new Honeywell *Colorgrafic* panels. For copies write Station 40, Minneapolis Honeywell Co., Brown Div., Wayne and Windrim Ave., Philadelphia 44.

DE LAVAL STEAM TURBINE CO. has announced opening of new district offices in Minneapolis, Minn., and appointment of *LEONARD P. MELLGREN* as district sales engineer. Mr. Mellgren, formerly with Detroit Stoker Co., will be responsible for sales and application engineering for centrifugal and *IMO* pumps, steam turbines, speed reducers and centrifugal blowers to the industry in his area.

AMERICAN CYANAMID CO. has available upon request a booklet describing aluminum sulfate. The booklet covers the history, manufacture, properties and uses of alum, particularly in water and industrial waste treatment, and in other uses in the paper industry.

BRANDON SALES, INC., a wholly-owned subsidiary of The Abney Mills, has announced the appointment of *ORTON CORP.*, Fitchburg Mass., to represent the company in sale of its dryer felts in New England, New York, Pennsylvania, New Jersey, Delaware and Maryland, and *FRANK CLAWSON*, of Kalamazoo, Mich., to handle sales in Michigan, Ohio, Illinois, Indiana, Wisconsin and Minnesota. Sales in the Southern territory will be handled by Brandon Sales from its office in Greenville, S.C.

WILLIAM J. ELKINS has joined Rice Barton Corp., Worcester, Mass., as a sales engineer. He formerly was with Bagley & Sewall Co. and with Moore & White, both manufactures of paper machine equipment.

Hygrotester Distributes German Equipment in U. S.

Hygrotester Inc. has established offices at 101 Henry St. Brooklyn 1, N.Y., from which point it will act as U.S. distributing and servicing agent for "Hygrotester" moisture and regulating equipment developed by Paul Lippke, Neuwied, W. Germany, and which has been in use on the continent more than 20 years. H. A. Brenner will be president of the U.S. company, and Willy Ray, secretary.

Service personnel includes Karl H. Emich, Heinz O. Kiuntke, and Alfred Wagner, engineers with installation experience in Europe, who arrived in February and will be responsible for making installations here. Mr. Lippke, known in the industry throughout the world, is expected to make a North American visit soon.

The Hygrotester equipment is designed to automatically control and regulate moisture, basis weight and caliper of stock on paper and paperboard machines. The plan is to supply this equipment to Canadian and U.S. companies on a lease and service, rather than an outright sale basis. Engineers will make regular service calls during term of the contract.

CLYDE B. MORGAN, president, Rayonier, Inc., announces the appointment of *MICHAEL A. BROWN, JR.* as manager of sales. In his new position Mr. Brown will be responsible for all sales activities in addition to continuation of sales promotion, public relations and advertising.

FRED HERBOLHEIMER, JR., technical director, Scott Paper Co., Marinette, Wis., is the new chairman of the University of Maine Pulp and Paper Alumni and will handle arrangements for the 1954 annual luncheon meeting.

ELI WHITNEY DEBEVOISE, prominent New York attorney and former assistant U.S. High Commissioner of Germany, has been elected a director of West Virginia Pulp and Paper Co.

WILLIAM D. DURYEA II has been promoted to the pulp sales force of Penobscot Chemical Fibre Co. Mr. Duryea has been taking mill training since his discharge from the Marine Corps. last October, and will be working with his father, *WILLIAM D. DURYEA*, vice president in charge of sales and purchasing for the company.

W. J. GARRITY is acting in a newly-created executive post in the sales department of Riegel Paper Corp. Mr. Garrity formerly was a vice president of The Munising Paper Co., Chicago, and for seven years was with Eastern Corp. in charge of Boston and New York sales offices.

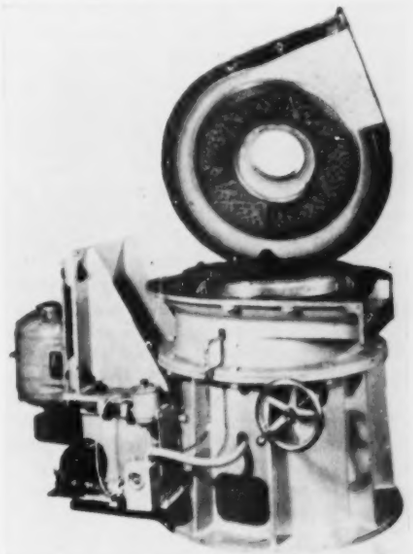
R. L. CAIN was elected to the board of Westfield River Paper Co. and its subsidiary, The Glassine Paper Co.; *WM. E. PORTER* was named treasurer; and *FRANK POTTER* was named manager of The Glassine Paper Co.

R. W. HOOKER, vice president in charge of sales of Hooker Electrochemical Co., has been named president of The Chlorine Institute for the fifth consecutive time. In a Hooker Co. promotion, *JAMES S. WALKER* was named manager of technical service. *DR. L. T. STEVENSON*, now retired as economist of APPA, will be available for some special consulting services and he will remain in New York City.

MINNEAPOLIS-HONEYWELL REGULATOR CO., Valve Division, announces successful application of a bellows-sealed diaphragm motor valve, originally designed for use in testing jet aircraft engine fuels, to other volatile and toxic mediums. The pneumatically operated valve (listed as Type 27) handles flowing mediums such as gasoline, water mixtures, alcohols, ethers, ketones, kerosene, jet fuels, etc.

RUBEN ZADIGAN has been appointed district manager in western New York and Pennsylvania by the Dicalite Division of Great Lakes Carbon Corp., according to JOSEPH E. MORAN, the division's general sales manager. Mr. Zadigan will be located in new headquarters at 975 Fuhrman Blvd., Buffalo.

A NEW BLEACH MIXER



SHOWN IS NEW BLEACH MIXER for high brightness achieved through uniform distribution and bleaching of chemicals, manufactured by JACKSON & CHURCH CO., Saginaw, Mich., makers of continuous pulp presses and other pulp processing machinery. This machine—"015" HIGH DENSITY MIXER"—has had two years' full scale tests in mill operations for high density bleaching; is used thus far for peroxide bleaching, but is considered suitable with other agents. Differing from conventional, it has horizontal discs and vertical shaft.

HOW FARM SETTLEMENT FAILURE LED TO PAPER PLANT

TEXAS MILL TO SELL PULP

R. M. (MIKE) BUCKLEY, new Exec. Vice Pres. and Gen. Mgr. of East Texas Pulp & Paper Co. Will have bleached kraft pulp as well as paperboard to sell. He was former Vice Pres. of Soundview Pulp Co.

R. M. (Mike) Buckley, former vice president and sales manager of Soundview Pulp Co., Everett, Wash., has been elected new executive vice president and general manager of the recently organized East Texas Pulp & Paper Co. He will maintain temporary headquarters at 306 Abstract & Title Bdg., Houston 2, Texas, for about two or three months and in late spring will move to the mill construction site at Evadale, Tex.

Last month PULP & PAPER announced exclusively that Albert G. "Buff" Natwick, former assistant resident manager of Crown Zellerbach's big mill at Camas, Wash., would be the resident manager (mill and manufacturing) for the new company. Thus two Pacific Northwest men will hold top key positions in the new Southwest enterprise.

Overall planning for the new mill and company is under direction of Richard A. McDonald, of Oakland, Calif., a director of the new company jointly promoted by Time-Life and Houston Oil Co. Mr. McDonald continues as a director of Crown Zellerbach. Howard Simons, Vancouver, B.C., consulting engineer for the new mill, is setting up a Texas engineering office.

Mr. Buckley told PULP & PAPER that the new 250 ton mill "will have a substantial tonnage of high grade bleached kraft pulp for sale" when it starts up, as well as bleached paperboard, mostly for food containers. Mr. Buckley, who is a director of the U. S. Pulp Producers Assn., is a veteran in the pulp sales field. Since Scott Paper Co. acquired Soundview Pulp in Everett, Mr. Buckley has continued as an officer in charge of pulp sales, but with large shipments to Scott mills in the east and plans for two paper machines at Everett, there was a gradual decrease programmed for Soundview pulp sales.

How It All Started

Inability to find settlers to occupy land as fast as sawmills cleared it of virgin stand decades ago has resulted in the projected East Texas Pulp & Paper Co. mill at Evadale. Houston Oil Co. backing gives it an assured supply of pulpwood from 651,000 acres. Full potentialities of wood supply have been analyzed through aerial photography. The holdings rank the company among the South's largest, according to PULP & PAPER's Southern editor.

In 1901 when Spindletop Dome, near Beaumont, Tex., started producing petroleum in volume equal to 80% of Russia's then world leader in that field, a group of business men foresaw possibilities in southeast Texas. They formed Kirby Lumber Co. and Houston Oil Co. and through them acquired 14 sawmills and almost 850,000 acres of timberland.

To Kirby Lumber Co. went the sawmills and a 20-year privilege of harvesting all trees 12-in. diameter at the stump; to Houston Oil went title to the lands. Its subsidiary, Southwestern Settlement and Development Co., was formed to administer the lands divested of timber. The primary objective was to find settlers to farm while mineral rights rested with Houston Oil. Large lumber companies expended tremendous efforts to fill their denuded lands with farmers. Special trains were run from northern points bringing prospects; every promotional trick was used. Results were meager.

Southwestern worked hard. There were soil tests, demonstration orchards, model farms, but not enough settlers. Southwestern even made an effort to keep the pine seedlings from coming back over land selected for farming. There were small victories, but the major win was by second growth timber stands that crowded back.

In 1933, Southwestern, having observed the profitable growth of young trees, changed its viewpoint. In 1939 it instituted a survey to determine the extent of restocking, and next year adopted a long range forest policy.

In 1951 the company sold from 30 to 40 million feet of timber in selective cuttings, the volume removed being substantially below the estimated annual growth. The holdings extend into a dozen Texas counties and support many sawmills. The company sold 12,000 cords of pulpwood to a paper mill; and 100,000 poles and piling. A naval stores plant paid $1 per ton for old stumps. A program of seedling plantings on acres not reforesting naturally was instituted.

The mill site, at Evadale, upstream on the Neches river from deep water facilities at Beaumont, has been in the news throughout the post war Southern expansion, its points of availability having been reviewed by a number of major paper producing companies. Just a year ago a project including Houston Oil, Time, Inc., and Scott Paper Co. went into abeyance with Scott's acquisition of Soundview. The mill site was owned by Southwestern but sold to Champion Paper & Fibre Co. within the past few years for use as a pulp mill site. One of the original 14 sawmill sites acquired by Kirby Lumber Co. will become part of the new paper mill project at Evadale. Evadale is about 30 miles by highway from Beaumont, the route being via Silsbee where Kirby, owner of 550,000 acres of forest land, has operational headquarters. A new sawmill there will make chips "for the paper industry."

The Neches river flows southward through East Texas' pine timberlands, being joined en route by the Angelina River upon which Southland Paper Mills (Lufkin) is located. Characteristic of modern conditions under which land cover is stripped and rain water runoff accelerated, the water sheds are quick to flood and stream flow shrivels to a negligible quantity in dry periods. To rectify this condition U. S. Engineers have drafted four projects for flood control and allied purposes.

Gearhart Leaders Want Reservations by May 1

"Back to Gearhart" has recently taken over conversation and plans of personnel at West Coast mills. The dates May 21-23 have been circled on calendars and reservations were coming in to committee members for hotel accommodations at Gearhart, Ore.—even before the usual announcement mailings. May 1 is set as deadline for reservations.

This joint meeting of Pacific Coast Superintendents and Pacific Section TAPPI —is shaping up under joint captaincy of William W. Clarke, Longview Fibre Co., for Superintendents and Fred Weleber, Publishers' Paper Co., for TAPPI.

The technical program will feature mills' experience in bleaching, papermaking, machine maintenance, kraft and sulfite pulping, oxidation and evaporator tube plugging, dirt evaluation and cleaning of pulp and paper by hydraulic and centrifugal type cleaners. Activities for men and ladies start with registration and buffet supper on May 21st and end with dancing on night of 23rd.

Western Michigan School Advisors

Bert H. Cooper, vice president, Kalamazoo Paper, and E. E. Ludwig, vice president of Bermingham-Prosser Co., have replaced Max Bardeen, president of Lee Paper, and F. B. Curtenius, treasurer of Kalamazoo Paper, on the advisory committee of the paper technology curriculum at Western Michigan College.

Martin J. Galbraith, technical director of Sutherland Paper, and O. O. Callighan of Edgar Brothers, are studying question of additional floor space and equipment to meet the needs of the curriculum and will report to the advisory committee.

An enrollment of 111 had been announced for the first semester evening lecture course on converting, according to Dr. A. H. Nadelman, head of the curriculum.

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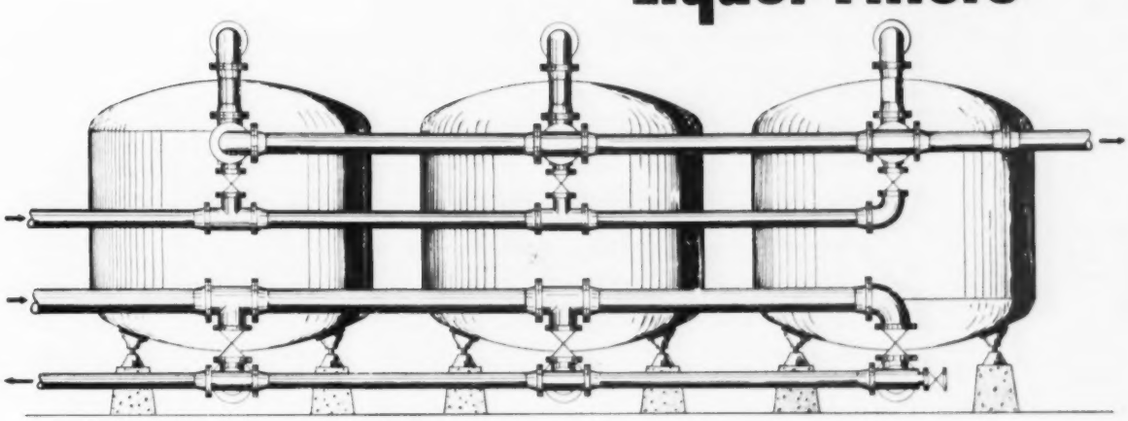

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INTERLAKE ALSO SHOWS UNIQUE WATER TREATMENT PLANT

THEY "POINTED WITH PRIDE"— —AND RIGHTLY SO, TOO

A LARGE DELEGATION OF TOP OFFICIALS OF CONSOLIDATED WATER POWER & PAPER CO. drove over to Appleton, Wis., from Wisconsin Rapids for the press-radio party introducing what Consolidated calls its "ANTI-POLLUTION PLANT." They included: Top row l to r: STANTON W. MEAD, President; GILBERT K. DICKERMAN, Technical Director, and LEONARD SMITH, the host, being Resident Manager at the Appleton Mill.
Lower row l to r: WILLIAM F. THIELE, Mgr. of Power Div., and former Chief Engineer of all operations for many years, having retired from those duties; LARRY MURTFELDT, Pulp Mill Supt. at the Rapids, who was closely identified with the Appleton development, and M. V. MOLSBERRY, Chief Engineer.

THE FIRST FULL-FLEDGED evaporation and burning plant in America for an orthodox calcium base (CAO) sulfite pulp mill, designed specifically to burn all of the collectible waste liquor for energy and mill operational needs, was given an impressive official opening in Appleton, Wis., on Mar. 4.

A well-organized and conducted "press and radio" party was provided to show off the new plant at the Interlake 140-tons-per-day. Mitscherlich sulfite pulp mill of Consolidated Water Power & Paper Co. It was a party of 35, and represented were most papers and radio stations of the region and Milwaukee, and also members of Wisconsin's state committee on water pollution.

There were a dozen or so top Consolidated executives and engineers, led by President Stanton W. Mead, and several Sulfite Research League officials were on hand, too, and this appeared to be an excellent and well-planned feature of the event. For the guests got plenty of attention and not one of them could have had must excuse for leaving snow-blanketed Appleton on that sunny, crisp afternoon without knowing what the sulfite pollution problem and this particular project were all about.

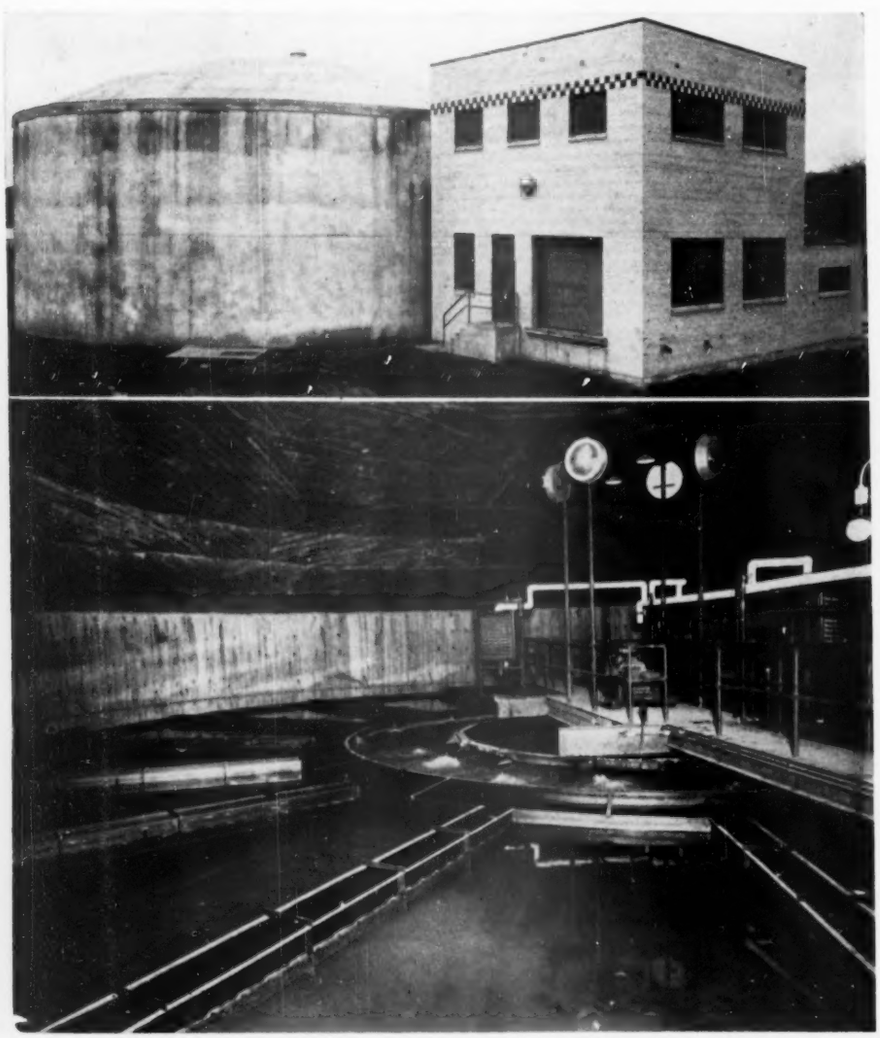
Guests first heard thorough-going explanations of the problem and the plant in a classroom at the Institute of Paper Chemistry. Then a bus took them to the mill for a well-conducted tour of the quadruple effect Conkey Flat Plate Rosenblad switching evaporator plant which was engineered and built by General American Transportation Corp.'s Process Equipment Division.

They also saw the vertical cyclone type furnace which burns 60% solids waste liquor without any other fuel help, except for oil startup for fires. About 200,000 gals. per day are evaporated from 13.3% solids content to the 60%. Babcock & Wilcox engineers cooperated with company engineers in conversion of the furnace.

New Infilco Water Plant

The guests also were shown another unusual plant addition—a new Infilco water treatment plant with a 77 ft. diameter Accelator suspended on piers inside a 92 ft. diameter basin.

Only one of its particular kind in the world, this Accelator is completely surrounded and floated in a body of clarified water and accomplishes in one hour what used to take four hours by conventional older methods. The conventional clarification treatment required about 4 hrs. holding time for mixing, coagulation and settling, accomplished in separate steps whereas all are accomplished in the Interlake plant in one hour. It treats 12,500,-



EXTERIOR VIEW (above) with technical control building on right, and INTERIOR VIEW (below) of the unique INFILCO Water Treatment plant at Interlake sulfite pulp mill of Consolidated Water Power & Paper Co., Appleton, Wis. The 77 ft. diameter Accelator is shown in middle of interior view. Also this shows how reinforced concrete dome was built without supporting pillars or beams. Action of Accelator has reduced water clarification for this type of operation from conventional four hours to one hour.

1853 1953 100th Anniversary

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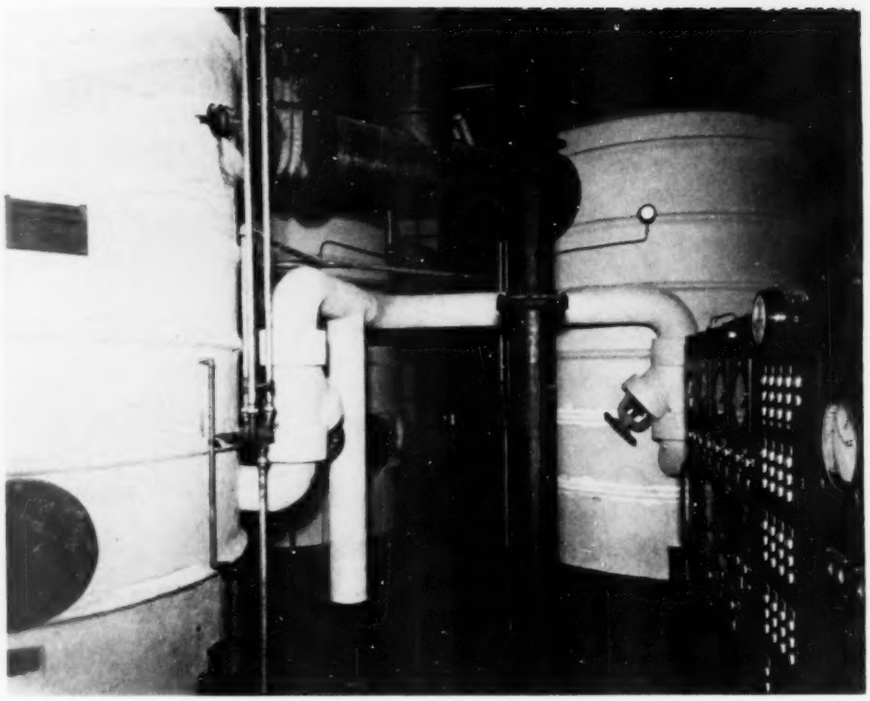


FIRST PLANT OF ITS KIND IN NORTH AMERICA, built specifically and entirely for both Evaporating and Burning of Conventional Calcium Base Sulfite Waste Liquor. This is at CONSOLIDATED WATER POWER & PAPER CO.'s Interlake Mitscherlich pulp mill in Appleton, Wis. In foreground here are two of the five big vapor bodies with falling film heaters and control panel—this is heart of General American Transportation's Conkey Flat Plate Rosenblad Switch System Multiple Evaporator. It evaporates 200,000 gals. per day to 60% solids for boiler fuel. The large stainless steel piping including the big "T" fabrication in upper middle was done by Northwest Copper Co. of Portland, Ore., and, barely showing above each end of the "T" are two big stainless Fabri-Valves (Fabri-Valve of America, also at Portland). Taylor and Bailey provided instrumentation.

000 gals. per day, using 7,000 lbs. alum, 200 lbs. chlorine, and also activated silica for coagulation within the Accelator.

Visitors were impressed with the large circular concrete plant with a reinforced concrete convex dome which supports itself above the water plant by virtue of its own design, without beams or pillars. Fox River is moderately high in turbidity and color, but the Infilco plant, started up last October, provides Consolidated a properly treated water for its high quality bleached pulp. A comparatively new 3-stage Impco bleach plant is another addition to improve quality of the Interlake product.

Many Problems Unsolved

Regarding the evaporating and burning plant, Mr. Mead stressed the fact that Consolidated "cannot be certain of operating efficiency and actual costs until the plant runs for quite a while." Many problems remained to be solved, including the disposal of bulky fly ash, which is now successfully collected with a Prat-Daniel collector but probably will have to be used for fill in appropriate areas. Another furnace will be converted to burning later, when improvements are expected to be made.

Leonard Smith, manager at Interlake, welcomed guests and told how defense restriction delayed stainless steel delivery. He paid tribute to Ray Jolley, Consolidated engineer who died last year and who designed the cyclone burner and did much work on all phases of the new plant.

Mr. Mead stressed the economic aspects of the project, pointing out it is serving a $2,500,000 property, backed by $3,500,000 in timber (this mill's share of Consolidated holdings). This mill supplies other Consolidated mills, plus 25% market pulp. Gil K. Dickerman, technical director of all Consolidated mills, told of over 50 meetings held in that same room, by the Research League—(Wisconsin-Michigan mills)—in years of battling with the pollution problem. He pointed out the advantage this Mitscherlich mill had over others in going to this process—less water than average to evaporate, easier collection from the horizontal type digester, and advantages inherent in its boiler plant. His intention was obviously to stress that it would be more costly and difficult for other mills, that might have to find a different solution to their pollution problem.

He stressed also that the advent of new 316 type stainless steels in recent years and improved fabricating were essential to make such a plant possible. He explained how the reversing system, whereby pipes carry liquor in one operation and condensate in the next, thereby flushing and removing scaling, was developed in Sweden. Scaling was a stumbling block for years to attempts to evaporate calcium base liquor.

The plant consists essentially of 5 vapor bodies, two falling film type heaters, and two submerged surface type heaters with counter flow between liquors and vapors. Heaters have 2,000 sq. ft. liquor heating surfaces and are interconnected with vapor bodies. The fifth body is needed to alternate liquor and heating surfaces at intervals determined by operations. A heat exchanger is used to utilize heat from condensate to increase temperature of liquor between effects.

Equipment at Interlake

More than $500,000 was invested in the evaporating and burning plant. In the evaporation section, main units were by General American. Northwest Copper Co. of Portland, Ore., fabricated large stainless steel piping units and many small pipes. Two large 24-in Fabri-Valves, special stainless hydraulic valves, also made in Portland, transfer vapors from vapor body to jet condenser and apply vacuum to the system. Taylor and Bailey instruments are used and there are a considerable number of small Worthington Goulds and DeLaval pumps, mostly driven by General Electric motors. Cooper Alloy valves, Johns-Manville insulation, American Heat Reclaiming heat exchangers, Felker Bros. stainless tanks, made at Marshfield, Wis., are other equipment in the evaporating plant. Atomizing spray nozzles by B & W were a feature of the burning plant.

Part of the year all the fuel needs of the Interlake mill can be supplied by the plant, and other half the year, about half the needs. However, bark is still burned for disposal.

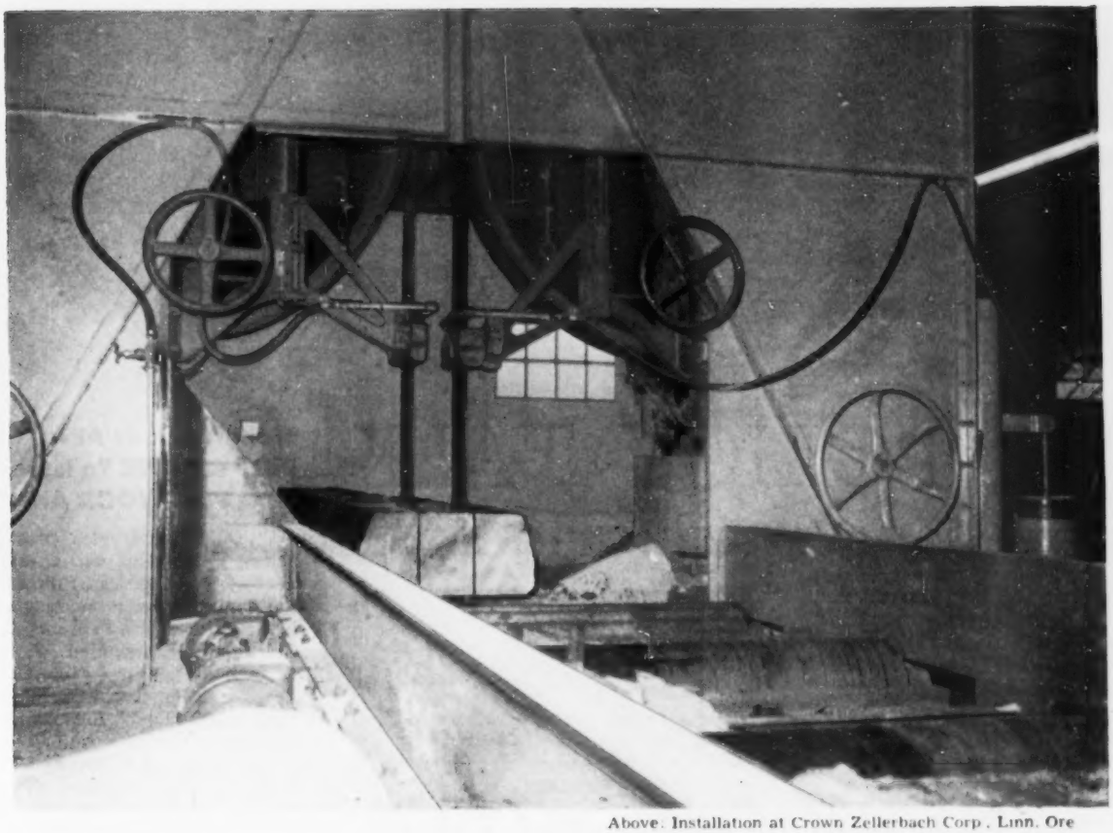
Rhinelander Paper Co. (See PULP & PAPER article by President Folke Becker of that company in Jan. 1953 issue, page 63) actually was the first mill in America to put in a large commercial scale evaporator plant for conventional calcium base liquor. It has a triple effect General American Rosenblad unit, but Rhinelander is primarily interested in development of yeast and other products, although it does now burn part of its waste liquor.

Crown Zellerbach at Lebanon, Ore., has been using a single effect General American switching unit and has just doubled this plant unit, but it processes ammonia base liquor instead of calcium. Puget Sound Pulp & Timber put in a single effect switching unit for its Lignosol plant, not for burning. Weyerhaeuser at Longview, Wash., is evaporating and burning magnesia base sulfite liquor.

Interlake will not be unique in its calcium base evaporation and burning setup, however, for very soon Northern Paper Mills will start up a similar four-effect plant.

Japs Want Alaska Waste

Charles R. Burdick, assistant regional U. S. forester for Alaska, said he saw no objection to a Japanese commission's request that they be allowed to chip, bale and ship waste material from sawmills near Ketchikan, Juneau, Wrangell, Sitka and Petersburg, Alaska, to Japan. The Japanese delegation suggested the waste which is now burned, could be made into chips for Japanese pulp mills.



Above: Installation at Crown Zellerbach Corp., Linn. Ore.

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Pulpwood section

APPA POLICY TALK

VIEWS ON SMALL OWNERS, CROSS HAULS

In a discussion of forest management policies at a meeting of the Forest Policy Committee of APPA during Paper Week in New York, the feeling was expressed by some members of the panel that company forest policy should be based on a first premise that a large percentage of pulpwood-producing land should remain in the hands of small landowners.

As expressed by C. G. McLaren, National Container Corp. of Wisconsin, the small landowner presents a good cross-section of the nation's economic life and gives economic balance to the pulpwood procurement process. Furthermore, if a large percentage of land is owned by the private citizen, in numerous ownerships, it discourages a tendency towards government ownership, and curbs the influence of so many government foresters who feel that good forest management means using it to grow saw timber.

James L. Madden, Hollingsworth & Whitney Co., was moderator, and the discussion panel, besides Mr. McLaren, included: A. C. Shaw, The Champion Paper & Fibre Co.; Clyde Martin, Weyerhaeuser Timber Co.; and Dwight Demeritt, Dead River Co.

Mr. Shaw presented a somewhat contrary view in the experience of Champion in stating that in their efforts to work with small landowners in the Asheville, N.C., area they had been able to make some progress in selling sound forestry management to them, but that in the end they always had to return to their own lands for development of growing stock. He said he thought it would be foolhardy if companies in his area particularly did not protect themselves with large timber holdings.

Negotiations between companies to eliminate cross hauling could save from $2 to $6 per cord on pulpwood according to a study made in Maine by Mr. Demeritt. If the pulp and paper industry there could get together to trade cutting rights or land holdings these savings would result just from transportation costs.

NEW DEPARTURE FOR AMERICAN PULPWOOD ASSOCIATION annual meetings in New York were displays like these. Top shows Lorain handling equipment made by Thew Shovel Co., Lorain, O. Below, a pulpwood rack car deve'oped by General Steel Castings Corp. Among other displays was Bauer Bros. revolutionary system for bark removal from wood chips.

Mr. McLaren also touched on the point of cross hauling by saying that an economic unbalance is caused by large ownerships of timberlands away from the plant site. He said if this were not true, then the wood supply would naturally gravitate to the mills closest by, providing the most favorable economic situation. Mr. McLaren felt that the industry in the South might find itself faced with political repercussions as a result of the acquisition policy followed by most companies.

It was pointed out that the South has made some of the greatest strides in the country towards sound forest management, and Mr. Madden explained that increase in value of stumpage was greatly responsible for this and also had its effect in encouraging good forestry practices among small ownerships.

Ehrhart Heads APA: PULP & PAPER To Issue New PULPWOOD ANNUAL

E. O. Ehrhart, vice president, Armstrong Forest Co., was re-elected president of the American Pulpwood Assn. at the annual business meeting of the group in New York City, February 19. Other officers elected included W. J. Damtoft, Champion Paper and Fibre Co. and Leo J. Freedman, Penobscot Chemical Fiber Co., vice presidents; W. S. Bromley, executive secretary-treasurer; and Miss Helen L. Kohler, assistant treasurer.

The elections followed the 19th annual meeting of the group held at the Waldorf-Astoria hotel which included papers and discussion on Pulpwood Preparation; Pulpwood Handling; Utilizing Woods and Mill Waste; and Management of Company Forest Lands.

Editor's Note: **The complete papers of this APA meeting will be published by *Pulp & Paper* in cooperation with the American Pulpwood Association, and will appear in April in a separate volume called the *Pulpwood Annual*.**

As Bad As Tillamook Burn

The disastrous Tillamook Burn in Western Oregon in 1933 has long been cited as one of the all-time forest disasters, with 12 billion bd. ft. of timber killed, but already a storm blowdown and beetle infestation in the same area has reached a kill of virtually equal magnitude.

The "BD-BB" Survey (blowdown-bark beetle) by aerial photography the past year revealed that the 1951 winter blowdown and the 1951 Douglas fir beetle kill in that year totalled 10 billion bd. ft. The blowdown also stimulated the beetles and if the insect infestations runs normal course two to five billion more feet, mostly sawtimber, will be killed.

Ask More Forests

Several Quebec pulp and paper companies have made applications to the provincial legislature for an increase in their forest holdings. Donohue Bros. has asked for 400 square miles, from 160 square miles now held; Sta. Anne Paper Co. has asked for an increase from 300 to 400; St. Raymond Paper for 250 from 175; Richmond Pulp & Paper for an increase from 175 to 250. Howard Smith Paper Mills have been granted new concessions totalling 400 square miles.

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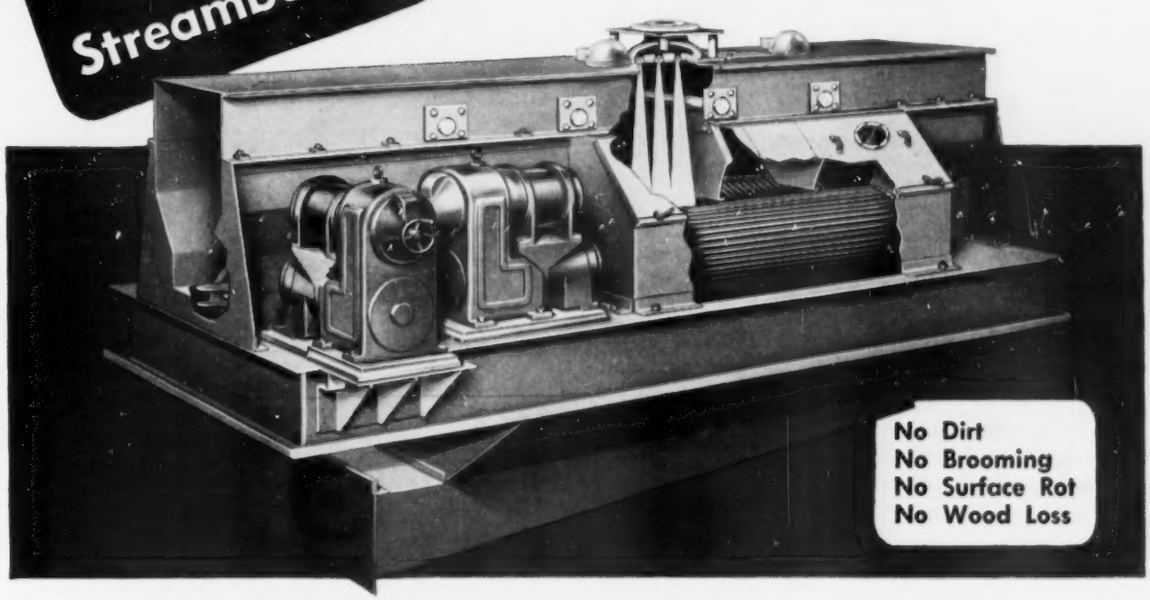

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THINNING OF LOBLOLLY PINE

By William F. Mann
Southern Forest Exp. Station, U.S. Forest Service

FIGURE 1.—A FULLY-STOCKED SECOND-GROWTH LOBLOLLY PINE STAND that is 20 years old. Although there are over 1,200 merchantable-size trees per acre in this stand, maximum cord growth will be obtained if it is left unthinned another 10 or 15 years. (U. S. Forest Service photo)

Some paper companies in the South are managing their loblolly pine stands on a short pulpwood rotation. Their object is to grow the maximum quantity of pulpwood per acre over a short period of time. This is in contrast to the practice of growing large, high-quality saw-logs or poles with a pulpwood byproduct from thinnings and from tops of sawlog trees over a longer period of time. Thinning practices best suited to sawlog production are not necessarily the most profitable practices for pulpwood production.

Investigations started in 1915 by the U. S. Forest Service in cooperation with the Urania Lumber Co., Urania, La., shed some interesting light on how loblolly pine should be handled on a short rotation. Although the continuous 36-year records of growth and mortality pertain to old-field stands, second-growth stands on cut-over areas of comparable site quality probably will behave similarly.

This article describes one typical set of the Urania plots, the Maxwell study. Other Urania studies not discussed in this article corroborate the findings on the Maxwell plots.

The Maxwell study consists of an unthinned check plot and three different thinning treatments, all applied to quarter-acre plots. All were installed in the same fully-stocked, old-field loblolly pine stand in 1915, when the trees were 8 years old. Site quality on the plots is classed as good—that is, the dominant trees will be about 93 feet high at 50 years of age.

One plot (U-5) was initially given light thinnings at 8 and 13 years of age. These thinnings were mainly from below, and removed small non-salable suppressed or nearly suppressed trees, although some very rough and deformed dominants were also cut.

On two other plots (U-55 and U-56) the first thinning was deferred until the stands were 18 years old, when all trees removed were large enough to be usable for pulpwood. This first thinning on these plots was from above. It removed mainly the poorer quality dominants and codominants plus some of the smaller trees likely to die within a few years from suppression. The thinning on U-55 was somewhat heavier than on U-56. On these two plots, as on U-5, thinnings followed at 5- to 10-year intervals.

Growth vs. Mortality

As *Table* 1 shows, in each 5-year period up to 1940 (when the stands were 33 years old), net annual cordwood volume growth was greater on the unthinned check plot than on all thinned plots. Net growth equals gross growth minus mortality—trees dying from overcrowding, insects, storms, wind, and other natural causes.)

From 1915 to 1940 the unthinned plot averaged 2.4 cords net growth per acre annually as against 2.2 cords for the light early thinning. During the period 1925 to 1940, average net annual cordwood growth was 2.4 cords per acre on the unthinned check plot as against 1.9 and 2.1 cords for the heavy and light deferred thinnings, respectively. During this period, the light early thinning plot grew 2.2 cords per acre per year.

Mortality for the 15-year period 1925-1940 (ending at age 33 years) was 5 cords per acre on the unthinned check plot but was negligible for the deferred thinnings and only 1.3 cords for the light early thinning. Despite the greater mortality on the unthinned check plot, net cordwood growth was greater than on the thinned plots.

After age 33, however, heavy mortality of merchantable-size trees reduced net cordwood growth on the check plot to considerably less than that of any of the thinned plots.

Up to the start of heavy mortality at age 33, then, cordwood growth was greatest where the stands were heaviest. This relationship is clearly demonstrated by coupling periodic cordwood growths from 1925 to 1940 with average basal areas after thinning. Basal area per acre—the square feet of wood which would be exposed if all trees larger than 4 inches in diameter had been severed 4½ feet above the ground—is an excellent criterion of stand density. The unthinned check plot had a basal area approximating the maximum that could exist on an acre. In table 2 it can be seen that the stands which were thinned most heavily (and hence had the least basal area) had the smallest cordwood growth, while the unthinned check plot had the greatest growth. Even the lightest thinnings, which took only the least vigorous and poorest trees, lowered the growth somewhat when compared with no thinning.

The unthinned plot shows up to the best advantage, finally, in total accumulative cordwood growth (i.e., total on plot plus any removed in thinning). Total yield per acre at age 33 was 59.7 cords without thinning, 55.2 cords with light early thinning, 50.0 cords with heavy deferred thinning, and 48.9 cords with light deferred

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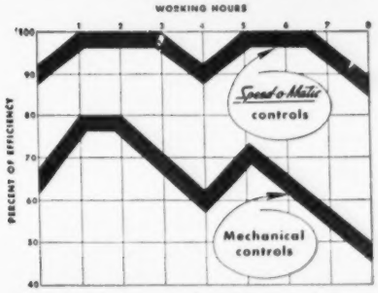

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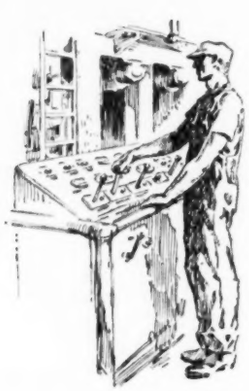

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thinning.

Possibly yield on the unthinned plot might have been improved if one or two commercial salvage cuttings, starting about age 25, had removed only salable trees certain to die. However, such a course would not have produced the minimum cut of three cords per acre that many people consider necessary for a commercial operation. Even where minimum cuts of one cord per acre are economically feasible, logging damage and cost of marking and supervision must be considered before it is decided to salvage small marginal volumes in dense stands. Logging damage was minimized on the study plots by the uneconomic procedure of carrying the bolts off the plots.

Recommendations

Apparently then, maximum pulpwood production over a 33-year rotation is attained either without any intermediate thinnings, or with only one or two light commercial salvage cuts to anticipate mortality. Any other type of treatment seems to reduce cordwood yield at 33 years.

Some landowners may be forced to make intermediate cuttings in order to defray current expenses. Even if they limit such cuts to suppressed, injured, or diseased trees, they will probably reduce their total yield of wood over the rotation, but of course the interest on the cash value of the liquidated stumpage may more than compensate for the slightly lowered production of wood.

Thinnings prior to a stand age of 33 years are accepted practice in growing sawlogs, since they shorten the period necessary to produce high-quality trees, and since they profitably liquidate as soon as possible those trees which are never expected to attain high value. In growing pulpwood, on the other hand, quality is of minor importance and commercial thinnings can neither appreciably shorten the rotation nor greatly increase the size of the average pulpwood stick in 33 years. Hence, unless thinnings increase production of wood per acre or net profits, they may not have a place in short pulpwood rotations.

The above conclusion applies only to loblolly pine on fair or better sites. Slash and shortleaf pine may require early thinnings, as they tend to lose their growth capacity in crowded stands much earlier than loblolly. On very poor sites such as eroded areas, even loblolly may tend to stop growing if it becomes badly overcrowded. If this happens, early thinnings will have to be made to keep the stand in good growing condition.

Table 2.—Basal area and volume growth, 1925-1940

Thinning	*Ave. residual basal area per acre Sq. Ft.*	*Periodic net annual volume growth Standard cords*
Unthinned check	152	2.35
Early light thinning	99	2.16
Deferred heavy "	76	1.86
Deferred light "	88	2.05

Appleton Shares Leads

Papermakers from Appleton, Wis., will be interested in knowing their old home town went through 1952 without a single traffic fatality. With Evanston, Ill., and Rome, N.Y., it was one of three largest cities in the country with a perfect record.

Table 1.—Net growth and mortality on the Maxwell thinning plots, 1915 to 1951

Period	Age at start of period	Basal area per acre: Cut at start of period	Basal area per acre: Left at start of period	Basal area per acre: Living at end of period	Net cubic volume per acre: Cut at start of period	Net cubic volume per acre: Left at start of period	Net cubic volume per acre: Living at end of period	Periodic annual mortality	Periodic net annual growth
	Years	Square feet	Square feet	Square feet	Standard cords	Standard cords	Standard cords	Standard cords	Standard cords
Plot U-3—Unthinned check									
1915-20	8	...	16.5	94.4	...	0	7.5	0	1.5
1920-25	13	...	94.4	134.2	...	7.5	24.4	0	3.4
1925-30	18	...	134.2	155.7	...	24.4	36.9	0.06	2.5
1930-35	23	...	155.7	166.4	...	36.9	49.7	.40	2.6
1935-40	28	...	166.4	174.1	...	49.7	59.7	.58	2.0
1940-46	33	...	174.1	168.5	...	59.7	64.5	1.50	.8
1946-51	39	...	168.5	164.7	...	64.5	64.6	1.48	0
Plot U-5--Light early thinning from below									
1915-20	8	2.3	15.8	99.3	0	0	6.5	0	1.3
1920-25	13	7.1	92.2	138.4	0.2	6.3	22.6	0	3.3
1925-30	18	45.4	93.0	121.2	5.1	17.5	28.8	.14	2.3
1930-35	23	15.3	105.9	132.1	3.4	25.4	37.2	0	2.4
1935-40	28	34.1	98.0	116.2	9.7	27.5	36.8	.12	1.9
1940-46	33	...	116.2	138.9	0	36.8	50.0	.18	2.2
1946-51	39	50.0	88.9	108.4	17.4	32.6	42.6	0	2.0
Plot U-55--Heavy deferred thinning from above									
1925-30	18	43.0	84.0	107.4	6.6	15.5	24.4	.02	1.8
1930-35	23	25.1	82.3	100.8	4.9	19.5	29.9	0	2.1
1935-40	28	38.8	62.0	78.7	11.8	18.1	26.7	0	1.7
1940-46	33	...	78.7	99.3	0	26.7	35.6	0	1.5
1946-51	39	...	99.3	112.2	0	35.6	45.6	.06	2.0
Plot U-56--Light deferred thinning from above									
1925-30	18	49.5	89.6	116.0	5.2	13.0	23.0	0	2.0
1930-35	23	20.2	95.8	115.6	2.9	20.1	31.5	.08	2.3
1935-40	28	35.4	80.2	96.9	10.3	21.2	30.5	.02	1.9
1940-46	33	...	96.9	111.5	0	30.5	40.1	.40	1.6
1946-51	39	15.7	95.8	114.8	3.9	36.2	45.6	0	1.9

NEW HAMPSHIRE APA MEETING REPORT

Mechanical debarking with the Andersson debarker; removal of bark from chips through a system developed by Bauer Bros. Co.; new chipping methods as shown by Carthage Machine Co.; and a technical review on wood preparation equipment, hauling and handling equipment, and forest management—all were included in the program of the first 1953 meeting of the Northeastern Technical Committee of the American Pulpwood Assn. in Manchester, N.H.

Gus Jacobson, president, Soderhamn Machine Mfg. Co., outlined the operation of the Andersson debarker in detail. He stated that the machine installation at Champion-International Co., which was observed on the field trip, was the first time it had been used exclusively to debark Northern hardwoods and that results to date, with the limited experience gained, were very gratifying. With respect to frozen hardwoods, as low as zero Farenheit, earlier experiments in Sweden indicated that excellent debarking results with this machine could be obtained, he said.

Wm. MacAdam, manager woodlands division, Champion-International, said in his opinion the debarker is a practical machine on the rough crooked hardwoods available in their procurement area. To meet their annual requirements of 18,000 peeled cords, Champion-International contemplates a year-around operation on an average 70-cord-per-day basis.

Lee Eberhardt, Bauer Bros. Co., explained the shaker-aspiration method for removal of bark from chipped wood developed by his company in an effort economically to remove bark from rough chipped wood, slabs and low grade waste.

Heavy drubbers throw the unbarked material against impact breakers, reducing it with a shattering impact action to a point where it will pass through widely spaced grate bars. This produces a uniform sized material in chip form. Bark separation is accomplished on a double deck shaker screen equipped with an air aspiration hood. Material from the drubber is fed to a top shaker deck equipped with a coarse screen plate. It passes through to a fine screen on a lower deck where fine material, mostly bark and sawdust, drops through. Segregation of remaining material is accomplished by the screen action with chips finally floating to the top where they are scalped off by the air aspiration hood.

Mr. Eberhardt said the construction was very rugged; power requirements were approximately 50 hp; and the system, including one drubber and two shaker aspirators, could handle about 120 tons (air dry weight) of chips per day. Approximate cost is $33,000.

Floyd Crocker, St. Regis Paper Co., leading the discussion on wood preparation, called on Stan Hart to outline some of the experience of St. Regis with wheel-type tractors on Anticosta Isle. Mr. Hart said the equipment included two tractors, one Ford and one Ferguson. Both of these units were equipped with Bombardier tractor track attachments and cast iron wheel weights (approximately 400 lbs. each), front and rear.

All wood was loaded and hauled directly from the stump. Road preparation included the cutting of low stumps and a small amount of hand grubbing.

A two-man crew in a ten hour day, on an average 1500 foot haul, produced 20 cords.

Don Swan, Great Northern Paper, reported:

"For the past six or seven winters, we have been conducting a large scale crawler tractor hauling operation moving 30,000 to 45,000 cords of wood from the St. John River watershed into driveable water at the head of the North Branch of the Penobscot.

"This is a spectacular operation, as we move better than 1,000 cords per day over a distance of 12 to 14 miles. The tractor trains average about 80 cords, but up to 150 cords have been moved in one train. The average number of sleds per train is 20. The topography is favorable for such an operation. Several D-4's and D-6's are used in making up the trains. D-7's are used on the main line. Each machine makes two turns per day, but they are long days, as much as 18 hours in some cases. The trains are broken at the landing and four or five sleds are taken out on the ice by smaller tractors. We have a D-4 with a special attachment on the blade that lifts one side of the rack, dumping the wood off."

"Certainly we are approaching the maximum practical distance for crawler tractors. If the distance becomes so great that only one turn could be made per day, surely crawlers would be out. We are going to try a large rubber-tired tractor, such as the Cat. DW 20, or Euclid, this winter. Their additional speed may extend the overall distance that we can go with this type of haul."

Thew Shovel Movie

TAPPI, Superintendents and other groups are invited to write the Thew Shovel Co., Lorain, Ohio, manufacturer of "Lorain" power shovels and cranes for loan of a new 16-mm sound film in color with a screen time of 22 minutes. The title is "Sidwalk Superintendents of America" and it takes the viewer to jobs all over the country where Lorains are at work. Mountain highways, logging "shows," mines, pipelines, railroads, dams, buildings, sugar cane fields, scrap yards and manufacturing plants are shown as scenes of Lorains' labors.

I. P. Georgia Timber

Southern Kraft Timberlands, Georgia holding company of International Paper Co., will hold the forested acres of the 70,000 acre Georgia estate of Henry Ford and dispose of the balance, it is said. The property is located at Richmond, 20 miles south of Savannah, Ga., at the mouth of the Ogeechee river. The forested land acreage is placed at 50,000 acres.

EXPANSION OF PERSONNEL AND OFFICES in U. S. for BULKLEY, DUNTON PROCESSES INC., are announced by O. F. Hutchinson, Vice Pres., following development of the Flotair Cylindrical Saveall, companion equipment to the Colloidair Flotation Saveall, and new waste water treatments. Shown here, l to r and top to bottom: R. A. BAUM, Exec. Vice Pres.; Mr. HUTCHINSON; I. HODGE, Manager of West Coast office; GEO. HURST, Toledo, O., office; RALPH BERMAN, Chicago office; W. L. KRAPF, Sales Engineer, New York; J. OSTERMAN, Sales Engineer, New York; C. P. RYAN, Sales Engineer, Pasadena, Calif.; J. DERMODY, Res. Engineer, New York.

Taxes in Connecticut

Property taxes are too high in 95% of Connecticut towns to make the growing of hardwood timber an attractive financial venture, according to Eugene Zumwalt, Associate Professor of Forestry, Yale University.

Softwood timber offers over twice the profit of hardwood timber but taxes are still too high in 65% of the towns even to make softwood growing profitable, he declared.

Eyre Heads Forest Research

Francis H. Eyre, of the Lake States Forest Experiment Station, St. Paul, Minn., has been named chief of the Division of Forest Management Research in Washington, D.C. He succeeds Leonard I. Barrett, who has been named director of the Timber Resource Review project of the Forest Service.

Employes' Cars Washed With New "Quickie" Unit

At Longview, Wash., Weyerhaeuser Timber plants, the company has built two "quickie car washers," not unlike conventional log washers, through which employes may drive their automobiles. Water from nine nozzles clean the cars. As vehicle approaches, the starting mechanism is activated. Long queues of cars form behind the washers at shift changes.

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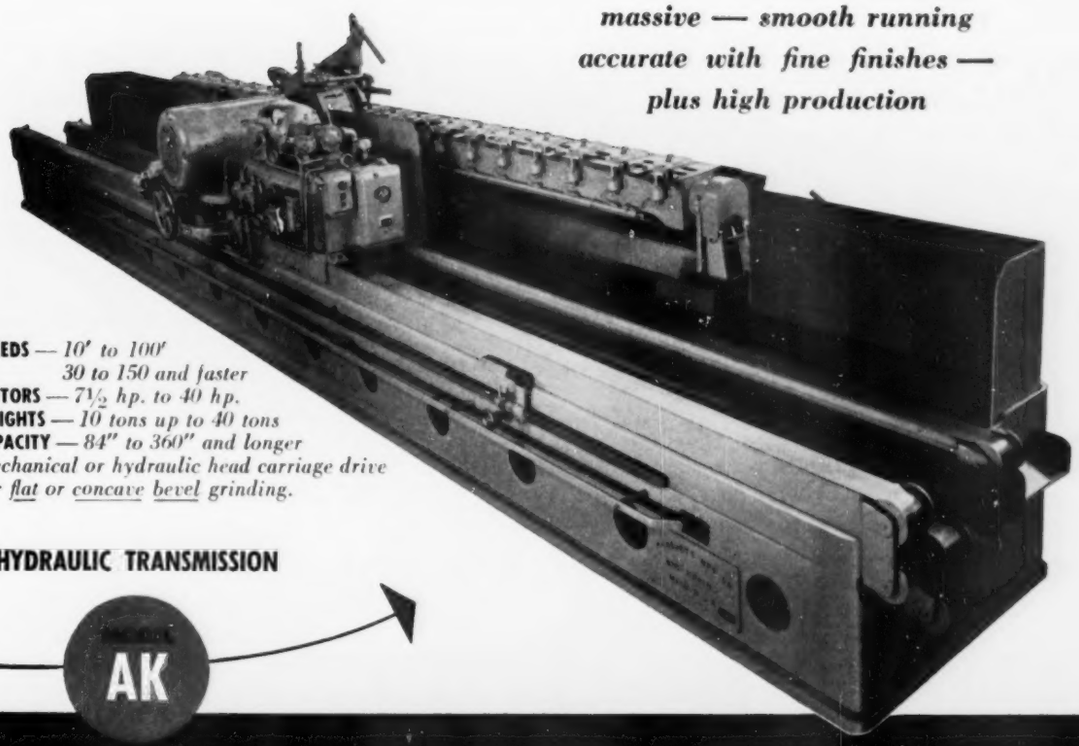

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PANEL TELLS: WHAT MAKES GOOD FOREMEN?

NEW ENGLAND FORUM

PANEL OF EXPERTS at first Northeast Community Relations Forum included (l to r): A. S. ANDERSON, director of general industrial relations, Champion Paper & Fibre Co.; W. M. McFEELY, industrial relations director, Riegel Paper Corp.; FRANCIS POPE, assistant to the president, Mead Corp.; LEE L. CLARDY, personnel director, P. H. Glatfelter Co.; and JAMES H. GROVES, training director, Union Bag & Paper Corp.

The pulp and paper mill foreman stands in a key position in the line of communication between top management and the community, and he should be taken into management's confidence in order to acquaint the community with company policies and to promote good relations. This idea was developed during the first meeting of the Northeast Community Relations Forum at Portland, Me., Jan. 15, in a discussion led by a sharp panel of industrial relations "experts." Industry leaders from Maine, New Hampshire and Vermont took part.

But as important as the ideas developed during the day-long meeting was the fact that industry presidents and managers came there to discuss the communication problems. The meeting was not only the first held by the Northeast Forum group, but the first discussion of its kind to be held by any of the groups organized by the APPA Community Relations Committee during the past year. The successful Northeast program will serve as a model for other area meetings, according to Donald M. Rochester, committee chairman.

For this first meeting a wide range of talent was selected to lead the discussion. J. H. Groves, training director, Union Bag & Paper Corp., Savannah, Ga., was chairman for the discussion, and his panel members included: Lee L. Clardy, personnel director, P. H. Glatfelter, Co.; W. M. McFeely, industrial relations director, Riegel Paper Corp.; Francis Pope, assistant to the president, the Mead Corp.; and A. S. Anderson, director of general industrial relations, Champion Paper & Fibre Co.

For the Northeast Forum group, Eugene H. Clapp, Penobscot Chemical Fibre Co., chairman of the executive committee, and John H. Milliken, S. D. Warren Co., chairman of the activities committee, issued the invitations and made the arrangements. Close to 50 mill executives

TWO MEN RESPONSIBLE for functioning of the Northeast Forum are EUGENE H. CLAPP (left) Penobscot Chemical Fibre Co., chairman of the executive committee; and JOHN H. MILLIKEN, S. D. Warren Co., chairman of the activities committee.

participated.

The topic was "The Role of the Foreman in Community Relations." The panel developed the thought that the foreman, as the closest management link to the employe, was, accordingly, standing in an important position in the development of good community relations. Good community relations, it was postulated, requires first good relations between top management and the foreman; good relations between the foreman and the employe; and a good position held by company employes as citizens of the community. The foreman, it was felt, should be trained to understand management policies and interpret them understandably to the employe.

A wealth of food for thought was opened up. One panel member, for example, expressed the idea that the growth of socialism in England was greatly influenced by stratification in employment. And that to avoid the same thing here it is necessary for American industry to keep opportunities and a way open to the top. It was added that when men are brought to management levels as foremen or supervisors they must be made to realize their identification with management and taught the responsibilities that go along with this position.

What Makes A Good Foreman?

Another panel member suggested that the matter of development of community relations was so important as to require more selectivity in choosing foremen in order to get men who are able to lead and influence men, rather than just having the technical knowledge to do the job.

It was brought out during the discussion that while foremen and supervisors should be encouraged by top management to take their roles as citizens of the community, there is a matter of delicate adjustment to avoid the impression that the company is trying to dominate the community—as might be particularly a problem in a small town. At the same time, top management should carefully see that in matters of contributions to the community welfare the company should play a properly proportionate role with other industry to avoid the impression of domination.

On the matter of foreman training, panel members said that the primary objective is that the foreman know what company policy is; and what its objectives are. This is fundamental in training the man for his responsibilities in community relations. When these facts are known, then the idea can spread out from the foremen, to the employes, to the community that "this is a good company to work for."

Advise Foremen in Advance

It was felt that there should be regularly-scheduled meetings of supervisors and foremen for discussion of management problems as well as the technical operation of the plant. The idea was advanced that foremen should be informed, either in a meeting or by bulletin, before news about a company is released to local newspapers. By giving this advance information the foreman would be able to help clarify company decisions to the community instead of having to say "that's the first I've heard of it!"

Foremen's meetings might well be held down to 15 in order to get proper exchange of information both ways, it was decided. The ideas of the foremen are important to top management, as well as the other way around, and full and free exchange should be encouraged.

One industry member asked how it would be possible to keep promotion channels open for all employes when the industry is constantly looking for more technically-trained men. A panel member suggested, in reply, that the industry may

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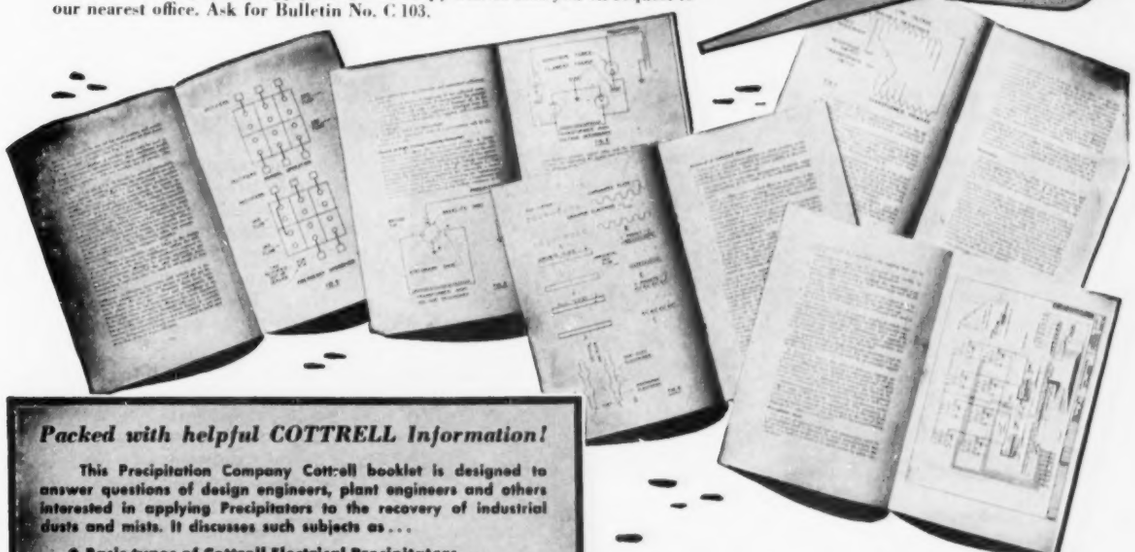

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THESE MEN LEAD the Northeast Community Relations Forum as members of its executive and activities committees. They are (l to r): GERALD HUTCHINGS, Fraser Paper Co.; KENNETH P. McDONOUGH, St. Croix Paper Co.; EUGENE H. CLAPP, Penobscot Chemical Fibre Co.; EVERETT INGALLS, S. D. Warren Co.; D. M. ROCHESTER, APPA Community Relations head; RODNEY E. FARNHAM, Great Northern Paper Co.; CHAS. G. PAINE, Eastern Corp.; H. P. BURBANK, Brown Corp.; T. G. MANGAN, International Paper Co.; CHAS. TYLER, St. Regis Paper Co.; JOHN MILLIKEN, S. D. Warren Co. and T. M. BARRY, Hollingsworth & Whitney Co.
George D. Bearce, St. Regis Paper Co.; T. F. Spear, Oxford Paper Co.; and Chas. Ramsey, Franconia Paper Corp., were not present for photograph.

well have overemphasized the need for external technical training, and that in terms of management responsibilities perhaps this technical training is not needed. He even went further to say that at times technical training may prove to be a disqualifying factor for a management man.

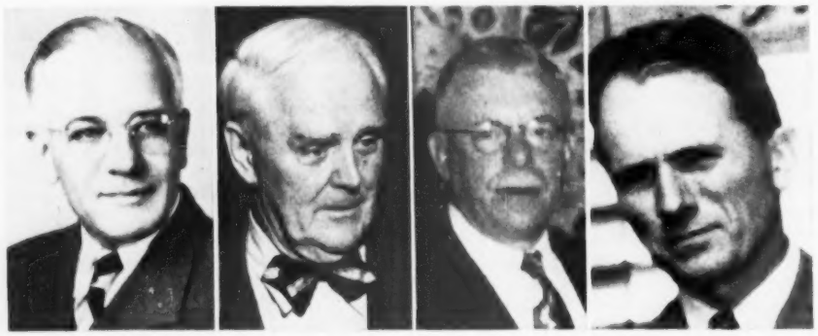
"We need to develop processes of finding out what our men can do and how we can do most with our manpower. Technical education can come through the company, and the training doesn't have to be on a group basis. Group training is a substitute for supervision and learning under a well-qualified man."

In choosing a foreman, this same panel member said some companies are now giving as the first criteria the standing of the man and his wife in the community—club affiliations, credit rating, church activities, neighborliness, etc. These are factors to be considered in addition to the man's ambitions and technical abilities in the plant.

In summing up the discussion, Mr. Groves emphasized again the role that the foreman can play in communicating through the employe to the community the ideas of company policy, and that the company is a good place to work. The foreman should be selected carefully, trained well, informed on management policies, and be aware of his responsibilities and capable of carrying them out.

SOUTHERN LEADERS SET SCHOOL POLICY

HERE ARE SOUTHERN PULP AND PAPER INDUSTRY LEADERS who will guide the infant paper school at NORTH CAROLINA STATE COLLEGE, Raleigh, N. C., and establish its overall policies. They comprise the Policy Committee for the new Department of Pulp & Paper Technology which is headed by Prof. C. E. Libby. ABOVE—LEFT TO RIGHT: W. F. BOWLD, Memphis, Tenn., Vice Pres. and Gen. Mgr. of Buckeye Cotton Oil Co. and Buckeye Cellulose Corp. (building new woodpulp mill at Foley, Fla.); HANS A. EGGERSS, New York, President, Continental Can Co. (with Hummel-Ross Pulp-Paper Div. at Hopewell, Va.); JOHN L. RIEGEL, New York, Chairman, Riegel Paper Corp. (new pulp mill at Riegelwood, N. C.); REUBEN B. ROBERTSON JR., Hamilton, O., President, Champion Paper & Fibre Co. (mills in Canton, N. C., and Pasadena, Tex.).
BELOW—LEFT TO RIGHT: E. J. GAYNER III, Brunswick, Ga., Vice Pres. and Gen. Mgr., Brunswick Pulp & Paper Co.; REUBEN B. ROBERTSON SR., Canton, N. C., Chairman of Champion Paper & Fibre (father of committee member shown above); VERTREES YOUNG, Bogalusa, La., Executive Vice Pres., Gaylord Container Corp., and JAMES L. MADDEN, Boston, Pres., Hollingsworth & Whitney Co. (mills at Mobile, Ala.). Two remaining Policy Committee members, whose photographs were unavailable, are HUGH D. CAMP, Franklin, Va., Vice Pres., Camp Mfg. Co., and F. D. GOTTEWALD, Roanoke Rapids, N. C., Pres., Halifax Paper Co.



Parsons & Whittemore Expands Activities

A program to engineer and build and supply pulp and paper mills in South and Central America, Africa and Asia has been announced by Karl F. Landegger, president, Parsons & Whittemore, Inc. The program involves agreements with the St. Regis Paper Co. to undertake management contracts in the mills and with Black-Clawson and its divisions, in supplying machinery. Millspaugh, Ltd., in Great Brigain, and William Kennedy & Sons, in Canada, will also supply equipment and engineering.

The program calls for: 1. Preliminary surveys and reports; 2. Complete engineering; 3. Production and delivery of all necessary equipment that cannot be produced in the country where mill is built; 4. Supply of trained personnel to get operation under way; 5. Financial assistance; and 6. Securing of raw materials and chemicals.

Already consummated is a contract to build a mill in Brazil for manufacture of high grade bleached sulfite from eucalyptus trees, and the completion of a mill in Costa Rica using abaca fiber. Leading the program will be Karl A. Clauson, vice president of Parsons & Whittemore, recently elected a director of Black-Clawson.

Charleston Mill to add 200 Tons Semi-Chemical

Plans for a $3,000,000 hardwoods semi-chemical pulping addition, including wood preparation additions, to increase semi-chemical production about 200 tons per day were announced by L. Frank Thompson, manager of the Charleston, S.C., plant of West Virginia Pulp & Paper Co.

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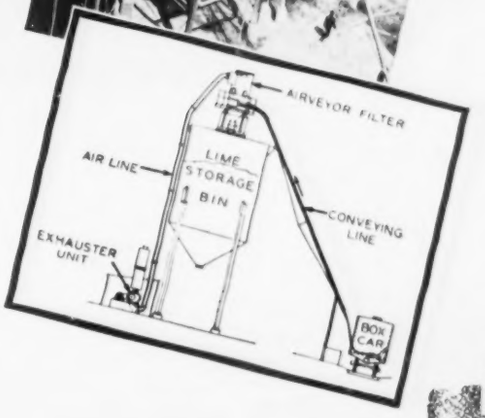
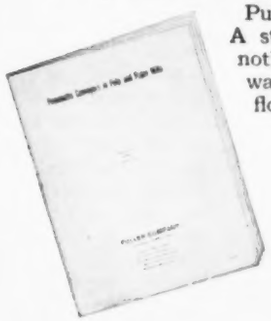
TO YOUR BALANCE SHEET



Flowing lime, soda ash, salt cake, starch, and clays from one location to another has been proved the simplest, most economical conveying system for the paper industry. Time and again, leading manufacturers have reported increased operating efficiency.

Conveying by air is a specialty of the Fuller Company . . . twenty six years' experience in this field, places it in the top position to recommend and design the system which will give you the best and most economical results. If you're interested in keeping costs for conveying your dry mill-supply chemicals at the minimum . . . if you want to keep waste and losses at the minimum . . . if you want to improve your operating balance sheet . . . you want to talk to Fuller.



Put your conveying problems squarely up to Fuller. A study of your conveying operations will cost you nothing . . . may well be your first step forward toward consistently profitable operation and a smoother flow of production.

Write for reprint of article, "Pneumatic Conveyors in Pulp and Paper Mills", presented at the Sixth Engineering Conference of TAPPI, Oct. 17, 1951.

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Fuller ENGINEERS IN PNEUMATIC CONVEYING

ROUND TABLE ON PAPER MACHINE FELTS

Bird Machine's felt conditioner equipment, uses of Mt. Hope Machinery expanding rolls and way to improve felt life came in for discussion at Miami Valley Superintendents meeting Jan. 22 attended by about 175 at Middletown, O.

It was suggested that warm rolls and spreader rolls, if properly used and maintained, would not seriously affect felt life. It was pointed out these aids would improve felt performance and actually reduce production costs.

About four beats per minute per foot of felt was suggested as the proper speed for whippers on wet felts. It was brought out that, on a three or four-slat whipper, the diameter and speed should be adjusted to vary with machine speed to bring about the desired number of beats p.m.p.f.

It was agreed that tension on felts did not mean tension on the jack; but rather, the tension at various points in felt travel. Tension at the shortest point, it was related, was not as important as the tension at the longest point of the felt.

The seriousness of the problem was recognized but no solution was offered as to ways and means for eliminating felt hairs on the sheet surface.

In the discussion on felt cleaners, it was brought out that the recommendation of Bird Machine Co. called for 4 to 6 inches of vacuum on its Jordan-type shoe and not over 10 inches on any type. It was revealed that board machines, now running without a whipper on the top felt, are equipped with three Mt. Hope Machinery expanding rolls and high-pressure showers for felt cleaning.

JOE HARTFORD (left) of Black Clawson, and FRED HOLMES (right) of Bird Machine, who served on Machine Clothing Round Table Panel at Middletown, O., along with D. W. Newell of Philip Carey, Earl Jones of Champion and Bob Purdy of Orr.

Blends of 20% to 40% synthetic fiber felts, according to comments made, have been used quite widely. It was stated that Nylon or Orlon have been used in the filling yarns to reduce abrasive wear; and trial felts made of 100% synthetic fibers have been used with promising results.

D. W. Newell of Philip Carey Mfg. Co., Lockland, O., chairmanned the panel. Serving with him were Joe E. Hartford, sales representative for The Black-Clawson Co. and formerly a superintendent and manager of mills in Jersey City, Kansas City and Los Angeles; Fred Homes, sales engineer, Bird Machinery Co., LaPorte, Ind., who formerly was with Smith Paper (now Schweitzer) as chief engineer; Earl Jones of Champion Paper, and Bob Purdy, Orr Felt.

New Bagasse Newsprint And Pulp Mill Planned

Brown & Root, Inc. of Houston has announced intentions to build a plant to make newsprint and dissolving pulp from sugar cane bagasse for the Valite Corp., New Orleans.

The new plant, pending approval in Washington, will be at Lockport, La., and it is proposed to process approximately 17,250 tons of paper and dissolving pulp annually in initial stages about 500 tons daily. (It was not stated how much would be newsprint—how much pulp.)

The new corporation will be the Valentine Pulp and Paper Co. Completion is planned by late 1953.

Valite Corp.'s principal business is manufacture of plastics and resins from bagasse. The process to make newsprint paper has come after considerable research in many parts of the United States. Newsprint of 100 per cent whole bagasse pulp has been made and tests run on presses of three small Louisiana newspapers. A small pilot roll was run for strength tests on the high speed presses of the New Orleans Times-Picayune.

Within a hundred miles of the selected site, 750,000 tons of bagasse are produced annually and only about 200,000 tons commercially utilized. The remainder is burned.

Zink Promoted

John D. Zink has been appointed assistant general manager of the Hammermill Paper Co., Erie, Pa. He continues as vice president and director of merchandising. Mr. Zink joined Hammermill in 1946. He was elected to the board in 1950.

SELLING THIS INDUSTRY TO COLLEGES

The Institute of Paper Chemistry, with the aid of many of its graduates and others in this industry, is doing a bang-up job of telling what pulp and paper has to offer to college and university students all over the U.S.

It had under way a strong program of action when PULP & PAPER published its editorial last December suggesting that this industry should step out and offer some strong competition to oil, steel and other industries by "glamorizing" an appeal to students. The Institute's program now has left its imprint in so many colleges of the nation, that a resume of what has been accomplished seems in order.

Dr. Harry F. Lewis, dean of the Institute, and Dr. J. E. Todd, its dean of admissions, regularly visit a large number of colleges and universities and this year the number will be around 60. But extra efforts seemed necessary because of the shortage of technical graduates, and so they have spear headed the series of larger meetings. They were arranged through chemical or chem. engineering departments and carried out in cooperation with student chemical societies or similar groups.

First was at Penn State last Oct. 17 Dr. Lewis, John Tongren of Hammermill and John Leech of Westvaco's Luke, Md., mill were on the panel.

Then came a meeting at University of Washington, Seattle, Nov. 6, with Dr. Lewis, Russ LeRoux, Weyerhaeuser manager at Everett, Paul Baldwin, Scott's assistant v. p. there, and others. The next night even a larger panel led a meeting at Reed College, Portland, Ore., with T. R. Probst and R. C. Crain, of Oregon Pulp & Paper-Columbia River Mills, S. J. Robinson of Publishers Paper, Harold Bialkowsky and J. C. Brown of Weyerhaeuser, and J. D. Wethern of Crown Z. From here Dr. Lewis went to the U. of Colorado to speak.

In December there were panels at Northwestern University, Marquette University and University of Indiana. John Strange, vice president of the Institute, J. C. Wollwage, technical research chief of Kimberly-Clark, R. J. Van Nostrand, of Brown Co., Chicago, E. J. Jones of Celotex, H. J. Allison, of Container Corp., D. M. Martin of Cornell Wood Products and Dr. Lewis participated in one or another. A q. and a. period ran for an hour and a half after the regular period at Evanston, Ill.

Came January, with meetings at Temple U., Philadelphia; Washington U. in St. Louis, Mo., and University of Rhode Island, Kingston, R. I.; U. of North Carolina, Chapel Hill, N.C.; and North Carolina State College. Dr. Todd, A. J. Haug of Scott; Ward Harrison and A. L. M. Bixler, of Riegel; George Knight of Dexter & Sons; E. J. Loutzenheiser of Atlas Boxmakers; R. P. Wiley of Westvaco; A. P. Yundt, of Camp Mfg.; and Dean E. W. Schoenberger of the Institute were in on one or another of these events.

For February there were meetings set at Clarkson College, Potsdam, N.Y.; Franklin & Marshall, Lancaster, Pa.; College of Wooster (O.); Bucknell University; University of Cincinnati, and University of Vermont. Further meetings were being arranged, at Wisconsin University, Birmingham-Southern College, etc. At the February sessions, Kenneth Arnold, St. Regis; Henry Fisher of Scott; C. R. Calkins of Riegel; P. E. Shick of Mead; J. J. Higgins of Ohio Boxboard; Francis Ratliff of Personal Products were among alumni locally or of the Institute who assisted.

Incidentally, one large paper company is going ahead on a similar program of its own with meetings in four outstanding technical colleges.

TODAY, conservation of valuable materials from flue gases of black-liquor-fired recovery boilers *is more important* to the kraft paper industry than ever before. That's why Koppers has developed a special *horizontal-flow* electrostatic precipitator for this service.

Here's why you get more profitable recovery with Koppers-Elex electrostatic precipitators!

HERE'S THE RECORD*

Cleaning flue gases on a 250-ton recovery boiler, a Koppers-Elex precipitator bettered the *guaranteed recovery efficiency* of 92.5% by an *extra 2.5%*. This highly satisfactory performance was obtained even though the unit was operating under a *15% overload* . . . and was verified by tests made by the customer.

GUARANTEED recovery at any efficiency you specify! That's one big reason why more and more kraft mill operators specify Koppers-Elex electrostatic precipitators for profitable recovery of valuable sodium sulfate and sodium carbonate from black liquor processes.

Another big reason is *minimum outage time!* Expensive by-pass systems with loss of materials during inspection and maintenance are *eliminated* by Koppers double chamber design. Maximum recovery is assured because successive collection zones are separately energized and continuous dust removal is provided by a drag scraper which operates on a dry, easy-to-reach *flat* bottom. This is an important feature where chemicals are re-used!

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C-Z AND ST. HELENS MERGER PLANS

Following previous reports in these columns of its proposed stock transfer merger of Canadian Western Lumber Co., Ltd., big timber operators of British Columbia, Crown Zellerbach Corp., now has indicated plans for further expansion by a stock transfer acquisition of St. Helens Pulp & Paper Co., quarter century old kraft operations at St. Helens, Ore. C-Z directors also voted a 2 to 1 split of its common stock.

They approved in principle an offer to acquire 80% of St. Helens shares. Pacific Coast observers see longterm significance in this move as Crown Zellerbach has substantial timber holdings along the Oregon northwest coastal area and for years there had been local talk that C-Z might itself build a mill at Astoria, Ore. Instead, St. Helens may be the answer. Wood utilization would be linked with interlocking and adjacent national and state timber that would assure operations "in perpetuity" at St. Helens.

Since the death of Max Oberdorfer, Sr., its founder and builder, sale of St. Helens has been widely rumored. PULP & PAPER confirmed that a big Wisconsin pulp and paper company recently withdrew offers to purchase St. Helens after long negotiation.

The arrangement for acquiring St. Helens would be exchanging one share of presently authorized but unissued common stock of Crown Zellerbach for each 2⅔ shares of St. Helens, or, after the 2-1 split of Crown Zellerbach stock, at the rate of one share for one and one-sixth shares of St. Helens. The agreement gives Crown Zellerbach time to complete an investigation of affairs of St. Helens and to fulfill legal requirements. Making of the offer will be contingent on C-Z being satisfied in both respects.

A major reconstruction program is now under way at St. Helens which will increase its capacity from approximately 55,000 tons to 90,000 tons per year of kraft paper and bags. If the exchange is completed C-Z would continue to serve St. Helens' customers, and would have an additional 35,000 tons or more per year for its own market requirements.

C-Z's possible offering to stockholders of Canadian Western Lumber, its partner in the new Elk Falls, B. C., mill, is at the rate of one share of presently authorized but unissued shares of common for each six shares of Canadian Western. After the stock split-up, it would be at the rate of one to three shares of Canadian Western.

GEARHART HOLDS ATTENDANCE MARK

With plans going ahead for the Great Return of the Pacific Coast Superintendents and TAPPI groups to the ocean beach at Gearhart, Ore., for their Joint Spring Meeting May 22-23, it is interesting to recall that the biggest meeting ever held on the West Coast by this industry, outside of a national, was what turned out to be the Farewell to Gearhart back in 1948.

There were over 460 at that meeting. The Victoria, B.C., meeting last September came close—430—but there were three associations taking part in that one, the Superintendents, TAPPI and Canadian Tech. Section's Western Branch.

The biggest meeting ever held by the U.S. and Canadian industry, outside of the annual winter nationals in New York and Montreal, was the Superintendents National at Portland, Ore., June, 1951, where a record 888 registered. It was conservatively estimated over 1,000 were there, including unregistered stragglers. (In recent years, Montreal has exceeded 1,000 and New York has gone over 1,500).

With the revival of the Gearhart series for Spring Meetings—which might become as regular an event as Poland Springs and other resort meetings in other areas—it is interesting to look back on the Pacific Coast attendance record:

Year	*Meeting*	*Attendance*
1946-	Supts-TAPPI, Gearhart	350
1947-	Supts-TAPPI, Gearhart	315
1948-	Supts-TAPPI, Gearhart	460
1949-	Supts-Can.,* Victoria, B.C.	320
1949-	TAPPI National, Portland, Ore.	725
1950-	Supts-TAPPI-Can.,* Seattle	430
1951-	Supts. National, Portland, Ore.	888
1952-	Supts-TAPPI-Can.*, Victoria	425
1953-	Supts-TAPPI, Gearhart	

*Canadian Pulp & Paper Assn. Technical Section's Western Branch participated in these three meetings.

Next Canadian mill development may be in Ontario if projects being talked about materialize. The Blind River enterprise is being revived, and there is said to be a good prospect of a mill being financed in that section.

Blind River is in the North Channel of Lake Huron between Sault Ste. Marie, where Abitibi Power & Paper and Espanola, where K.V.P. Co. Ltd. operates.

Port Arthur, at the head of the Lakes, is the setting for another expansion story. E. E. Johnson, president of Great Lakes Lumber & Shipping Co. (not associated with Great Lakes Paper Co. of Fort William), and representatives of Brown Corp. have been looking over timber in that area with a view to pulpmill development some later time. Mr. Johnson is a director of Brown Corp.

In British Columbia it will probably be 1954 before a substantial start is made on Celgar Development's integrated mills at Castlegar, however.

FOR VULCAN COPPER & SUPPLY CO.

WILFRED GAINS (left), is newly appointed Project Engineer, designing and constructing high pressure synthesis plants, and ALLAN HOKANSON (right) is new Development Engineer for THE VULCAN COPPER & SUPPLY CO., engineers and manufacturers of chemical plants and equipment, according to President T. O. Wentworth. Mr. Gains is a graduate of McMaster U. in Ontario and was with Chemical Construction Corp. Mr. Hokanson is a Brooklyn Polytech grad and was with Colgate-Palmolive-Peet Co.

Radioactive Tracers Tested at Powell River

Powell River Co. will continue the experiments initiated by eastern Canadian mills in the use of radioactive materials for testing pulp processes. Rolland Paper Co. carried out some tests along this line, and subsequently Quebec North Shore Paper Co. applied them to newsprint.

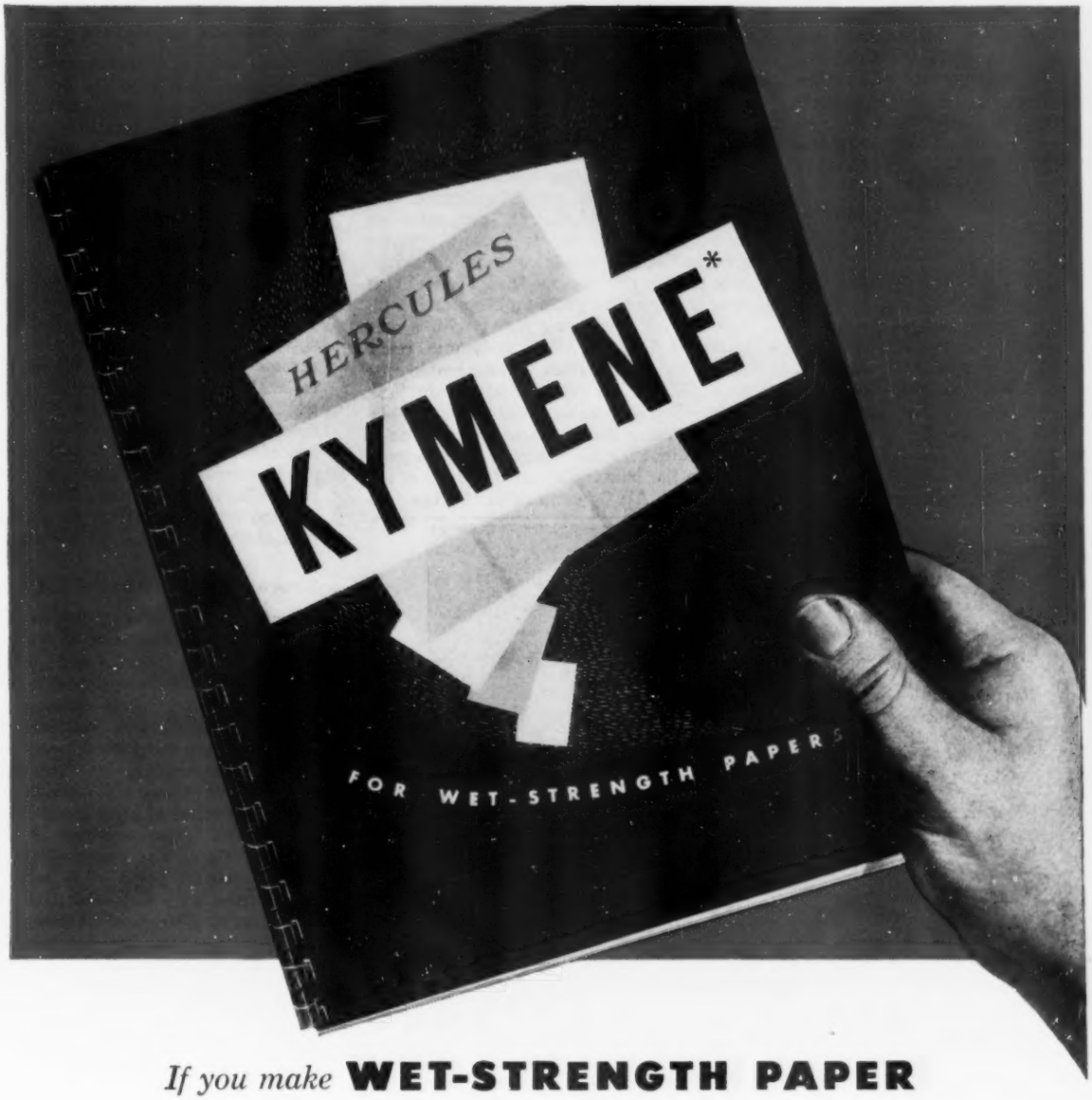
Charles Walker, physicist at Powell River, who was formerly on the staff of the Chalk River, Ont., atomic energy plant is in charge of the work carried on at Powell River, injecting radioactive fibers into the pulp solution on one of the newsprint machines to trace the reaction of fibers through the process.

New Equipment For No. 5 at Fort Frances

Minnesota & Ontario Paper Co.'s No. 5 machine (186 in.—177 in. trim) at Fort Frances, Ont., will have a new Bepco Canada sectional electric drive to replace its 36-year old steam drive. A removable Fourdrinier, two straight through suction presses, a smoothing press, seven dryers (six being additions) and a Pope type reel are being provided by Dominion Engineering. A Cameron winder and Ross air system are other additions. The machine makes groundwood printing and converting papers, news and tablet.

Tugs To Carry Mill Units North

Tugboats towing big scows will transport large entire units and machinery north from Puget Sound through the Inside Passage for the new Ketchikan Pulp & Paper Co. mill now being built at Ward Cove, Alaska. They are already carrying materials—3,000 tons of steel piling, 7,000 tons of brick, 20,000 tons of cement—about 50,000 tons of construction materials in all.



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REVIEW OF TAPPI PAPERS

(Continued from page 62)

chemical pulping was attested by excellent attendance at the semi-chemical meetings. Some 25 to 30 members and interested persons were at the committee meeting alone. At presentation of papers, sharp interest was evidenced.

Interest at present seems to lie in investigation of preparation of suitable pulps from less than commonly used species. Also, in possible re-use and recovery of the cooking chemical.

PAPER MAKING

The subject of paper making, particularly paper making machinery, was quite fully treated at the Engineering Conference in the fall. An outstanding presentation at New York was on the Deculator. Results obtained from the installation on the Crossett Paper Mill machine were described as: "Elimination of wire pit and headbox foam; average monthly lost time due to wet end breaks was decreased approximately 3 hours, and for drier and dry end breaks 6 hours, overall machine efficiency showed an average monthly increase of 2.97%, basis weight variations in the machine direction were decreased, sheet formation and smoothness improved, drying efficiency was improved. . . ."

Advantages of using aluminum chloride in place of aluminum sulfate for precipitating the beater size when using melamine resin, was described in a paper. The author states: "Although the price of aluminum chloride is several times greater than aluminum sulfate, considerable saving may be realized. Typical test results show that while an aluminum sulfate system, producing paper with a wet burst of 8, uses 3½% melamine resin added after the jordan, a comparable wet strength may be realized with only ½% resin when an aluminum chloride system is used. Aluminum chloride is used as a replacement for aluminum sulfate to precipitate the beater size on the basis of an equivalent AL_2O_3 content in the furnish. The headbox PH is maintained at approximately 4.5."

Corrugated Containers

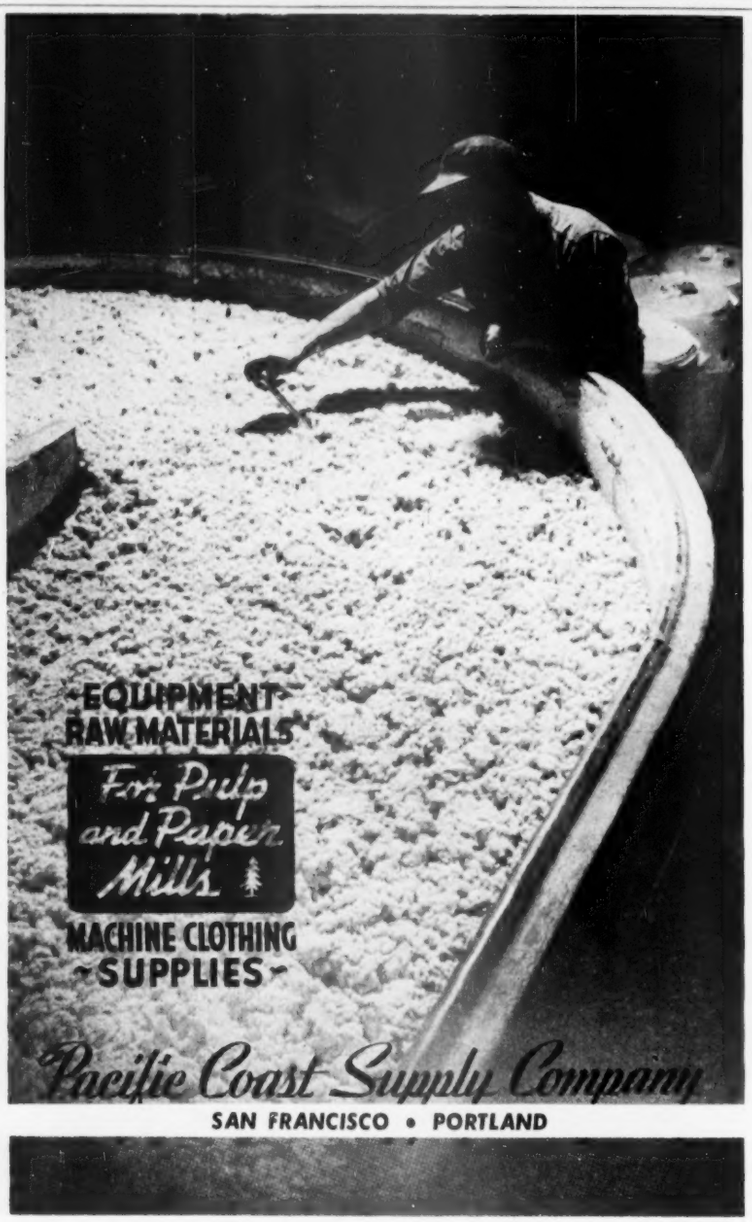
The subject of corrugated containers was considered from the basis of advantages in use of chrome plated rollers for preparation of corrugated papers, and preparation of glued lap-joint containers. According to one paper, "the great advantage of chrome-plated rolls is the fact that the chromium coated rollers are run only up to the point where the chromium coating is almost removed by the abrasive quality of the paper. At higher speeds the life of a pair of unplated rollers is less than half the life formerly obtained when slower speeds were used; thus, another reason for chrome plating corrugating rollers." Regarding the glued lap-joint on fiber containers, it was stated that, "Sufficient experience with glued lap boxes has now been obtained to lead many people to think that the glued lap-joint will soon take its place with the well known stitched and taped joints in the manufacture of corrugated shipping containers."

Structural Fibrous Materials

Activity in structural fibrous materials has materially broadened in the past few years. Needless to say a wide field of investigation is available. Papers presented at this session dealt primarily with standard control test methods, use of white oak for hardboard, evaluation of refiner plate design, etc. The paper on evaluation of refiner plate design indicates that: "The effect of plate design on drainage time is large, a range of 300% in drainage time was observed for equal strength boards made from pulps which were refined with dissimilar disk patterns. The effect of plate rotation direction upon stock drainage time and board strength is significant and measurable."

Other subjects presented before the national meeting dealt with fundamental research, testing methods, statistics pulp purification, etc.

The whole-hearted interest in activities of this industry shown by committees and their members should in some measure contribute to the continued success and stability of the industry.

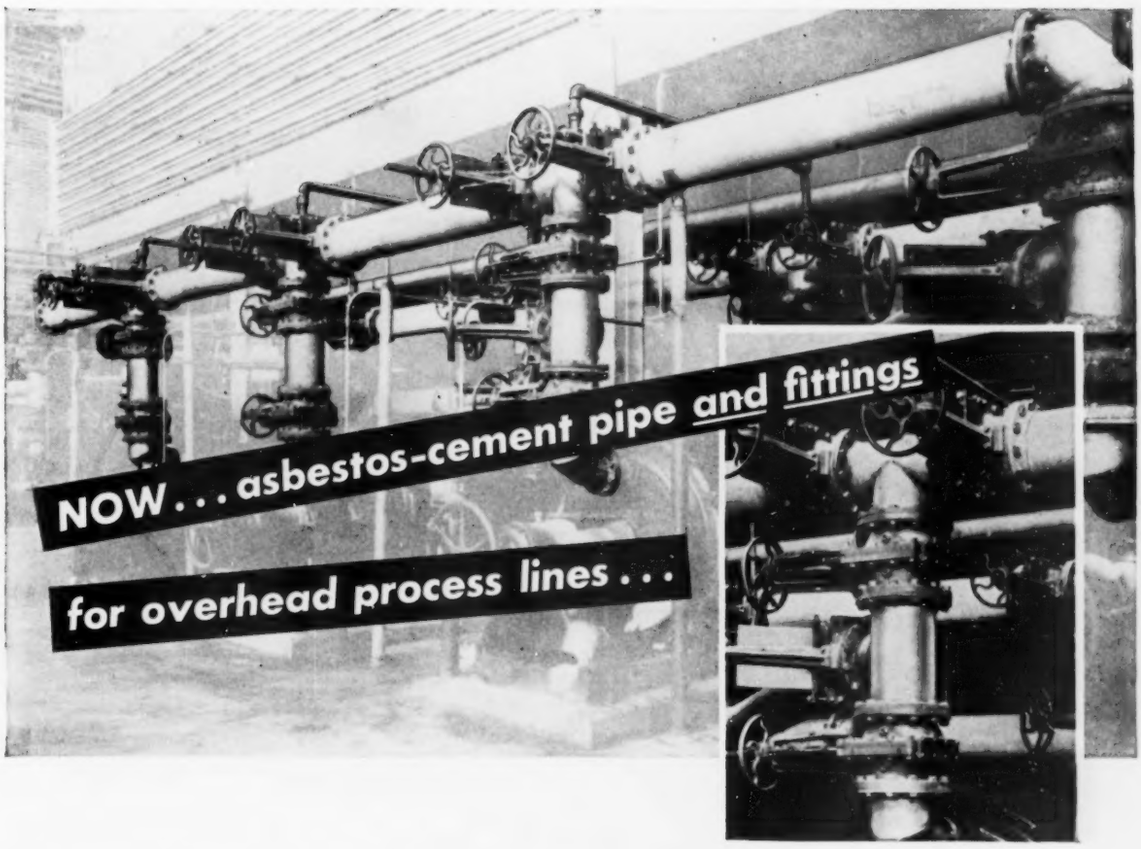


New Company In Hydraulic, Pneumatic Machinery Field

Carter Controls, Inc., a company manufacturing hydraulic and pneumatic equipment has been formed recently at 2800 Bernice Road, Lansing, Illinois. Its founder and president is J. Carter Miller, founder of Ortman-Miller Machine Company. Mr. Miller, long active in this field, stated that the demand for volume production of high quality cylinders and valves led to the formation of the new company.

De-Ink Experiment

The City of Hoquiam, Wash., has given a one-acre site to Johnnie Franciscovich of Hoquiam, to carry out experimental work with a small defiberizing and de-inking mill which he has developed.



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You can now obtain Transite* asbestos-cement Pressure Pipe with Transite-lined Streed Fittings for your overhead process systems. This permits the installation of high strength non-metallic pipe for handling raw and treated water, washed and unwashed pulps, stocks of all kinds, multi-stage bleaching systems (except direct chlorination) and certain mill wastes. There is no better way to provide clean pulp and stock than by handling it through Transite Pressure Pipe.

Low installation costs—Transite is light in weight, easy to handle, and can be drilled, cut, threaded and machined with standard tools. *And*, because its carrying capacity stays high, you can specify the smallest diameter pipe necessary . . . thus making the minimum capital investment.

Low pumping costs—Transite Pressure Pipe offers exceptionally low frictional resistance to the flow of liquids (flow coefficient C=140 for water). Since it is resistant to sliming and bacterial growths, this high carrying capacity is continuously maintained so that pumps can be operated at maximum efficiency and lowest cost.

Low maintenance costs—Transite cannot rust and is highly resistant to the corrosive action of mild acids and alkalies. Consequently, it requires a minimum of maintenance throughout its long life.

For underground service too, such as water supply or fire lines, Transite Pressure Pipe offers the same outstanding advantages. To obtain further information on Transite Pipe Systems for paper mills, write Johns-Manville, Box 60, New York 16, N. Y.

*Reg. U. S. Pat. Off.

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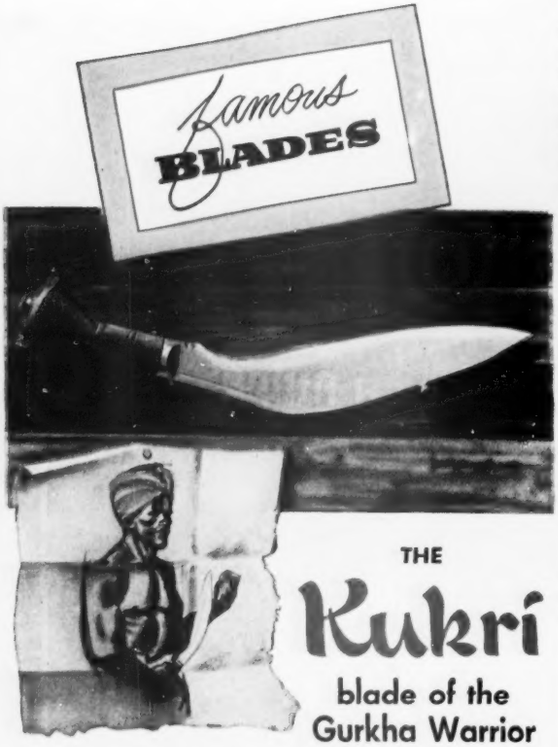

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SOUTHWESTERN ENGINEERING COMPANY

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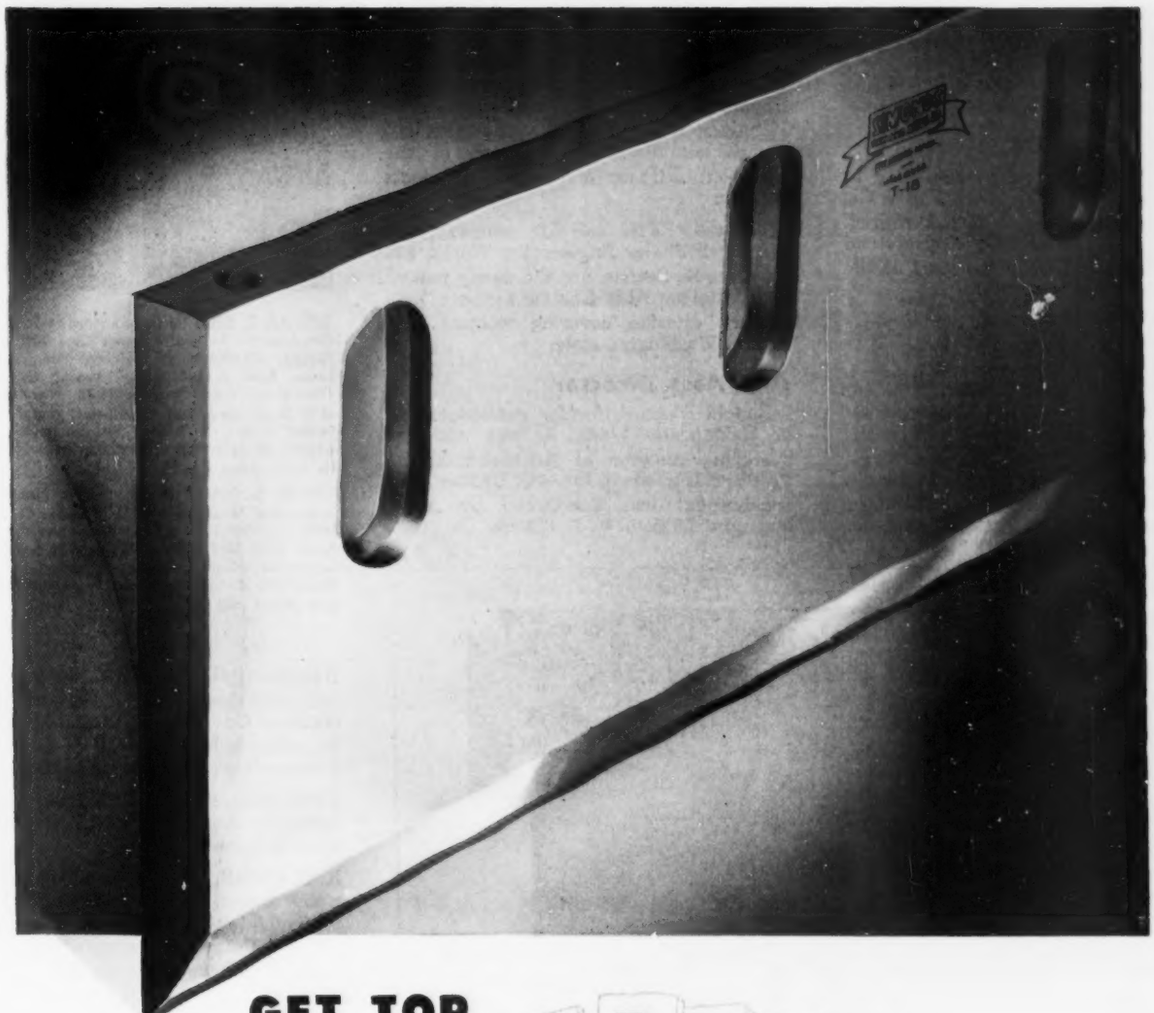


GET TOP CHIP QUALITY

. . . get the Top Knife for TOUGHNESS . . .

SIMONDS T-18 CHIPPER KNIFE

Your percentage of uniform chips that get through screening and into the cooker . . . that's what determines profit or loss in your wood room. And with wood such a big factor in paper-making costs today . . . it doesn't pay to get less than the best in chipper knives.

That's why you find Simonds T-18 Chipper Knives in modern, cost-conscious pulp mills all over the country. For these extra-tough knives hold their cutting edges far longer . . . and consistently turn out *clean-cut chips.* Slivers, sawdust and bruised chips are reduced to a minimum. Made of special Simonds T-18 Steel that's known for its ability to take the high speed, brutal beating of chipper operation, *Simonds Chipper Knives give you one of the most effective cost-control systems you can install in your mill.* See your dealer today.

SIMONDS SAW AND STEEL CO.
FITCHBURG, MASS.

Factory Branches in Boston, Chicago, San Francisco and Portland, Oregon. Canadian Factory in Montreal, Que.
Simonds Divisions: Simonds Steel Mill, Lockport, N. Y., Simonds Abrasive Co., Phila., Pa. and Arvida, Que., Canada

Personals

PACIFIC COAST NOTES

GEORGE BAILEY, shift supervisor at Coos Bay Pulp Corp., Scott Paper Co. subsidiary, Coos Bay, Ore., has retired. He has been in the industry 40 years and at Coos Bay plant since the start of the mill over 20 years ago.

ROY CRAWSHAW has been named president of the newly-formed Mission-Western Engineers, Inc., of Pasadena, Calif., according to Thomas J. Bannan, president of Western Gear Works. Mr. Crawshaw will continue as assistant to the president of Western Gear Works. Mission-Western Engineers, Inc., was formed to handle customer service functions of Western Gear Works Mission Plant in Pasadena.

LYALL TRACY, another Pacific Coaster who has served his term in the National Production Authority, has returned to his home bailiwick and duties heading Northwest industrial and public relations for Rayonier, Inc., at his headquarters in Hoquiam, Wash. He was a top NPA assistant administrator in charge of the Chemical, Rubber and Forest Products Bureau.

E. P. GARRETT and his company, the Garrett & Shafer Engineering Works, 322 1st Ave., S., Seattle, are the newly named distributors of Allis-Chalmers general machinery division covering western and central Washington state.

AFPI Asst. Director

Ronald Richard, former newspaperman of Goldendale, Wash., is new assistant managing director of American Forest Products Industries, Inc. Mr. Richardson's appointment was announced by AFPI Managing Director C. A. Gillett.

WILLIAM D. SELLS (left), promoted to Sales Manager for Alaskan Copper & Brass Co., 902 First Ave., Seattle, distributor of stainless steel, copper and brass. Born in Bellingham, Wash., he graduated from U. of Washington in 1935, was with steamship lines, and was purchasing agent for Puget Sound Bridge & Dredge before joining Alaskan Copper as salesman specializing in pulp mill service eight years ago.

WALTER C. MILLER (right), present Plant Engineer, Anacortes, Wash., mill of Scott Paper Co., who has been appointed Plant Engineer of the Empire, Ore. (Coos Bay) Sulfite Pulp Mill, also a Scott Mill. He succeeded JOHN ANDERSON, transferred to the Soundview Division to assist in engineering of the new paper mill there.

"From ingot to fourdrinier wire"

ANNEALLING THE WIRES

Just as one alloy differs from another, so do their individual requirements for annealling vary. A definite ratio of speed and temperature must be used for each type. Skilled employees, tending our modern annealling furnaces, adhere faithfully to the proper speed-heat formulae so that your Eastwood wire will have the longest possible life.

Because the Eastwood-Nealley plant is a *completely integrated* one, every wire we ship has undergone thorough and continual analysis, control and testing from the raw metals to your finished fourdrinier wire ready for quality paper production.

We are proud to say they are *truly ours*—"from ingot to fourdrinier wire".

EASTWOOD-NEALLEY CORPORATION
Belleville, N. J.

RUSSELL O. VOGNILD, assistant western sales manager for Hooker Electrochemical Co., Tacoma, Wash., caught a 25-lb. yellowtail in the Gulf of Lower California while on a vacation in Mexico.

LEONARD R. GREGER has been promoted to supervisor of CZ Camas electrical department.

K. C. OSIER, formerly head log and pulpwood buyer, Seattle, Wash., has been promoted to vice presidency of both International Pulpwood Supply Co. and International Pulpwood Supply Co., Ltd., affiliate and subsidiary, respectively, of Crown Zellerbach.

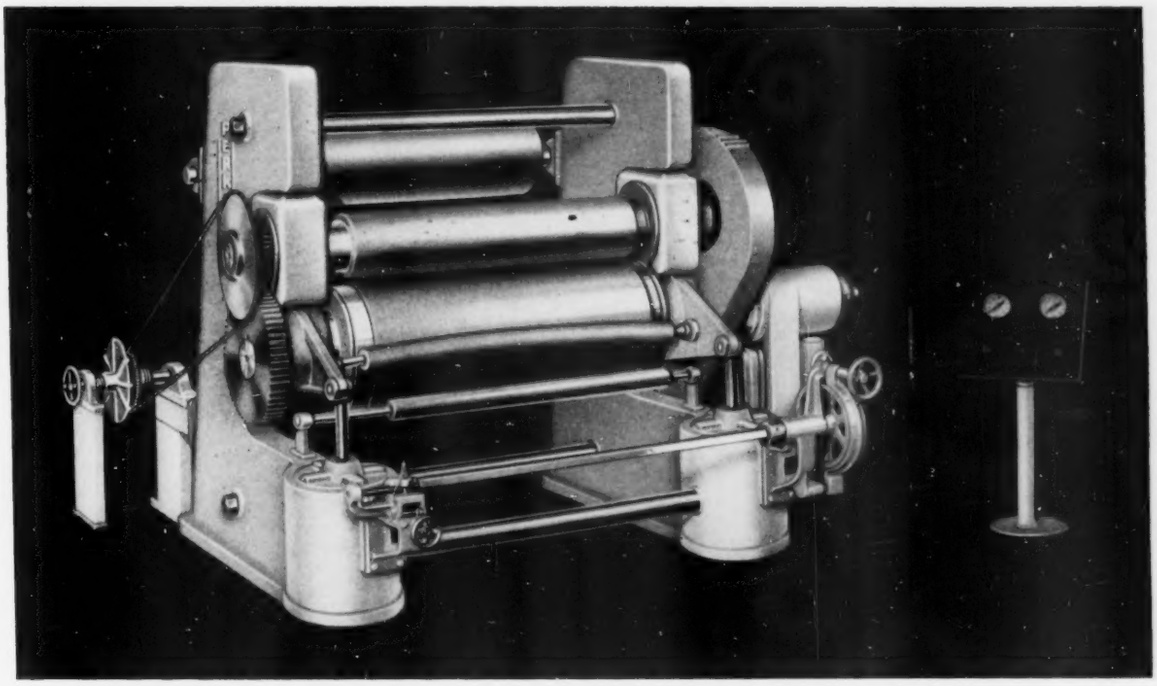
A. C. PERRIN has arrived on the Pacific Coast and established a new Reliance Electric & Engineering Sales Office in San Mateo, Calif. He will be interested in the pulp and paper field. His address is 122 Second Ave., Room 201, San Mateo, Calif.

MERRILL E. NORWOOD formerly paper mill superintendent at St. Helens Pulp & Paper Co., has gone into business for himself—operating a bowling alley at resort city of Seaside, Ore. It may be temporary as he is considering resuming activities in this industry.

Squires Steam Specialties To F. J. Cater on Coast

The C. E. Squires Co., Cleveland, O, manufacturer of Squires Steam Specialities, has announced appointment of F. J. Cater, Seattle, as Northwest representative, covering Washington, Oregon, British Columbia and Alaska.

In business more than 50 years the Squires company holds the first patent on pilot controls for reducing and regulating valves, pressure pump governors, and boiler feed water controls. Squires recently announced marketing of new Mouat series of low pressure steam traps, float vents, and float controls.



IMPORTANT EQUIPMENT FOR THE MODERN PAPER INDUSTRY .....

This new PERKINS Calender is designed to meet the exacting requirements of the modern paper industry—embossing all types of papers at maximum speeds.

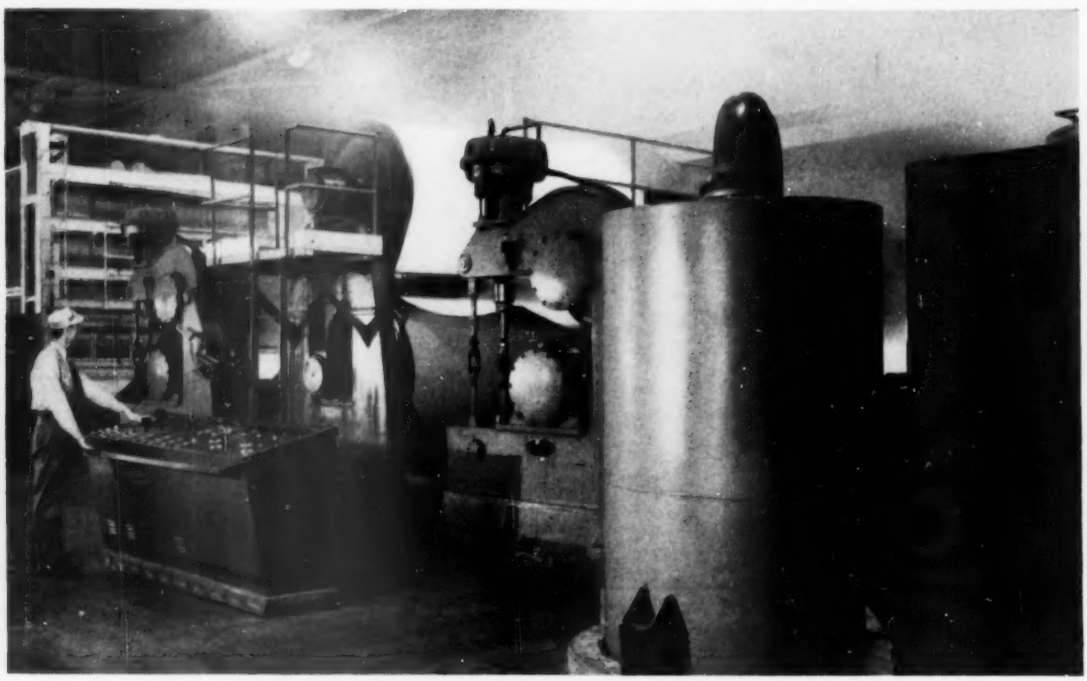
Specifications: 20 tons maximum operating pressure, pneumatic loading . . . anti-friction bearings throughout . . . top roll bearing boxes water cooled . . . friction brake let-off . . . friction disc clutch wind-up . . . top roll bored for heating . . . variable speed drive . . . provision for rapid roll changes . . . rugged design in accordance with Perkins standards.

B. F. PERKINS & SON, Inc.

HOLYOKE, MASS., U.S.A.

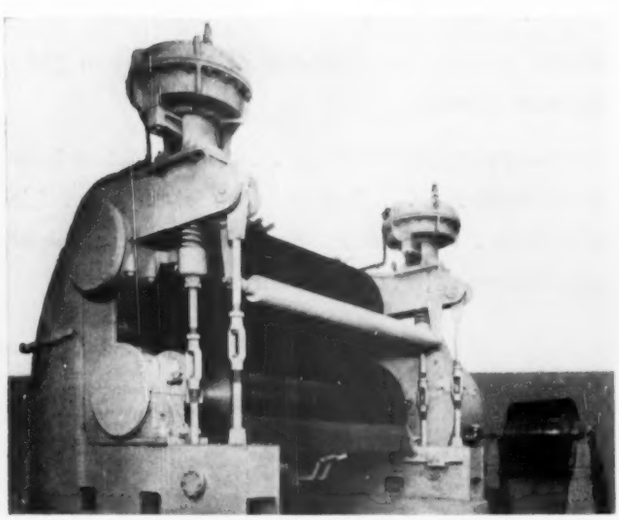
LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

HIGH DENSITY • HIGH PRODUCTION

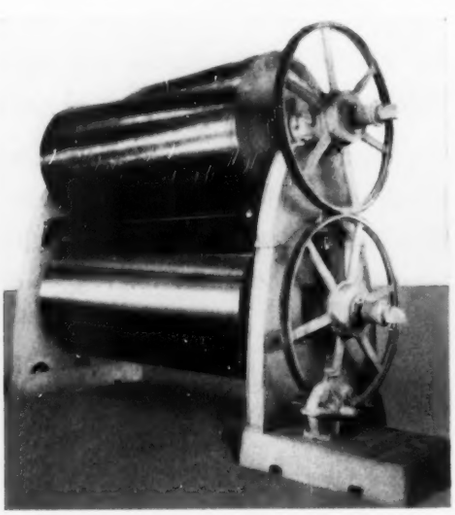


Built to exacting specifications for individual requirements in various sizes up to 156"—for as high as 300 tons per day per machine! Note air-loading for all press rolls.

IMPCO FELTLESS



Main air-loaded press sections with 36" diameter grooved press rolls—shown here from tending side.



View from drive end of 60" diameter pre-dryer section.

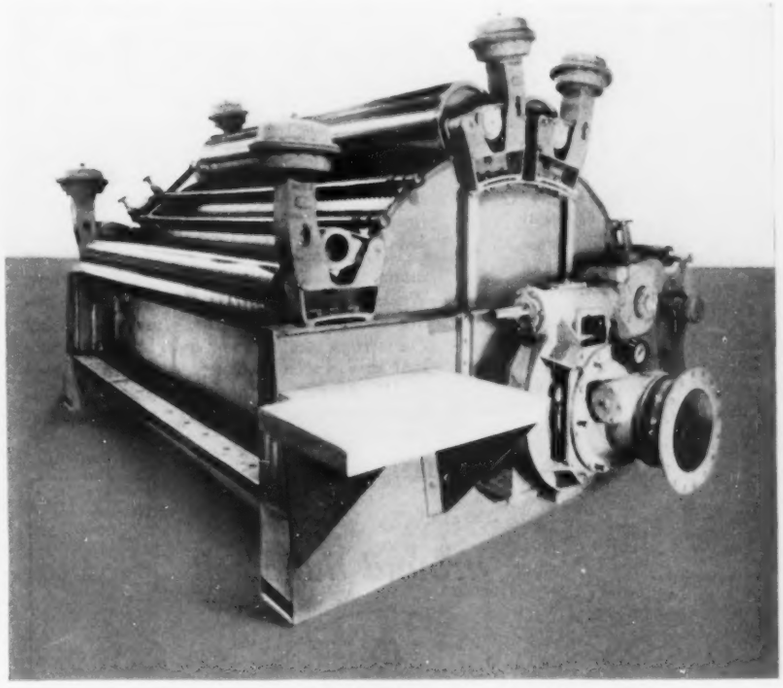
IMPROVED

NASHUA.

RUGGED DEPENDABILITY

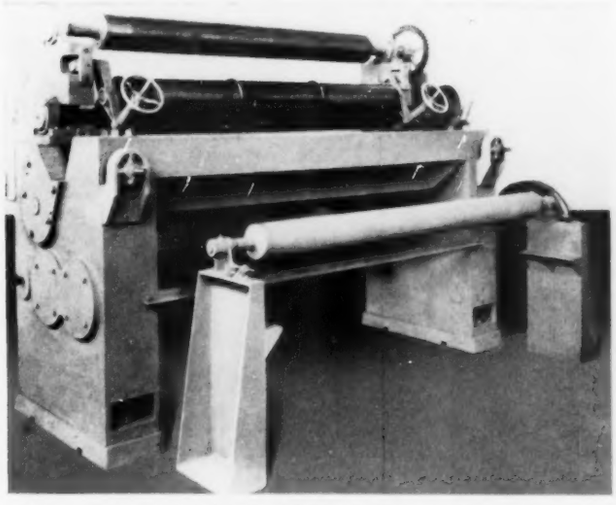
Producing sheet densities in the range of 50% to 60% A.D. on all types of chemical, semi-chemical and groundwood pulps—the Impco Feltless Wet Machine contains a number of feotures new to wet machines all combined to give you long-lasting, top quality service.

Air-loading for all press rolls—extra-heavy enclosed herringbone gear drives on the press sections—new inverted type sheet cutters are but a few of the advantages incorporated in this exceptionally rugged feltless wet machine manufactured by Impco.

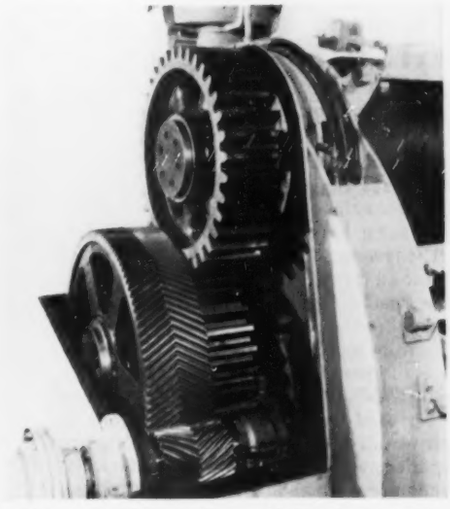


View from valve side of 8' diameter vacuum thickener for wet end showing air-loaded forming and press rolls.

WET MACHINES!



The complete unit can be installed prior to dryer sections or this Impco Slitter and Cutter can follow the final press to produce sheets of any desired size for shipping wet.



Main press drive case disassembled to show rugged herringbone gear and pinion and special long-tooth synchronizing gears.

MACHINERY, INC.

NEW HAMPSHIRE

Sherbrooke Machineries Limited, manufacture similar equipment in Canada

J-30

Personals

Southern Notes

WINSLOW B. MILLS, formerly general superintendent of St. Regis Paper Co. mills at Carthage, Herrings, and Watertown, N.Y., has been named general superintendent of the company's pulp and paper mills at Pensacola, Fla.

M. CLIFF CRANE, chief cost accountant, Union Bag & Paper Corp., Savannah, Ga., received the high honor of "Savannah's Young Man of the Year" (1952) from the local Junior Chamber of Commerce for his community work. He started with U B. 13 years ago in Geneva, N.Y.

HOWARD J. DYER, chief engineer of St. Regis Paper Co.'s bag plant at Pensacola, Fla., was assigned to take over bag development work in the Multiwall Bag Division.

R. M. BROWNING has been named chief engineer of St. Regis Paper Co.'s bag plant at Pensacola, Fla.

FRED WILSON, has been named production manager of all plants of Frost Lumber Industries, Shreveport, La., which was acquired recently by Olin Industries preliminary to building an Olin pulp mill in that area. He had been plant manager at the Frost sawmill in Huttig, Ark., one of the possible pulp mill sites.

MURRAY-BAKER-FREDERICK, INC., New Orleans distributors for Heppenstall chipper knives and Crane Co., changed to *FRED MURRAY SUPPLY CO., INC.,* and now located 232 Canal St.

CARL FAHLSTROM, assistant resident manager, Longview Fibre Co., Longview, Wash., vacationed several days in California during January. He, along with Mrs. Fahlstrom, visited their daughter, a Postulant in Franciscan Order, attending school at Mt. Alverno Convent in Sierra Madre. Southern terminus of the vacation trip was at Coronado.

CHARLES E. ROTH has been appointed mill superintendent of the Jesup Division of Rayonier, Inc., as announced by Thomas R. Stein, resident manager. Until his appointment, Mr. Roth was pulp mill superintendent with Riegel Carolina Corp., at Acme, N.C. Also appointed was *RALPH V. ZEPP* as assistant resident engineer. Mr. Zepp was formerly employed by Minnesota and Ontario Paper Co., at International Falls, Minn., as project engineer in charge of construction work and other maintenance projects.

BENSON G. WELLS and his company, Welsco Co., 1108-10 Norwood St., Fort Worth, Texas, are the newly named Allis-Chalmers general machinery division for that state.

LELAND BLACKMON, formerly spiral department supervisor at Hartsville, S.C., is now production manager for Sonoco Products Co. plant at Los Angeles. Ernest Miller, formerly assistant, became supervisor at Hartsville.

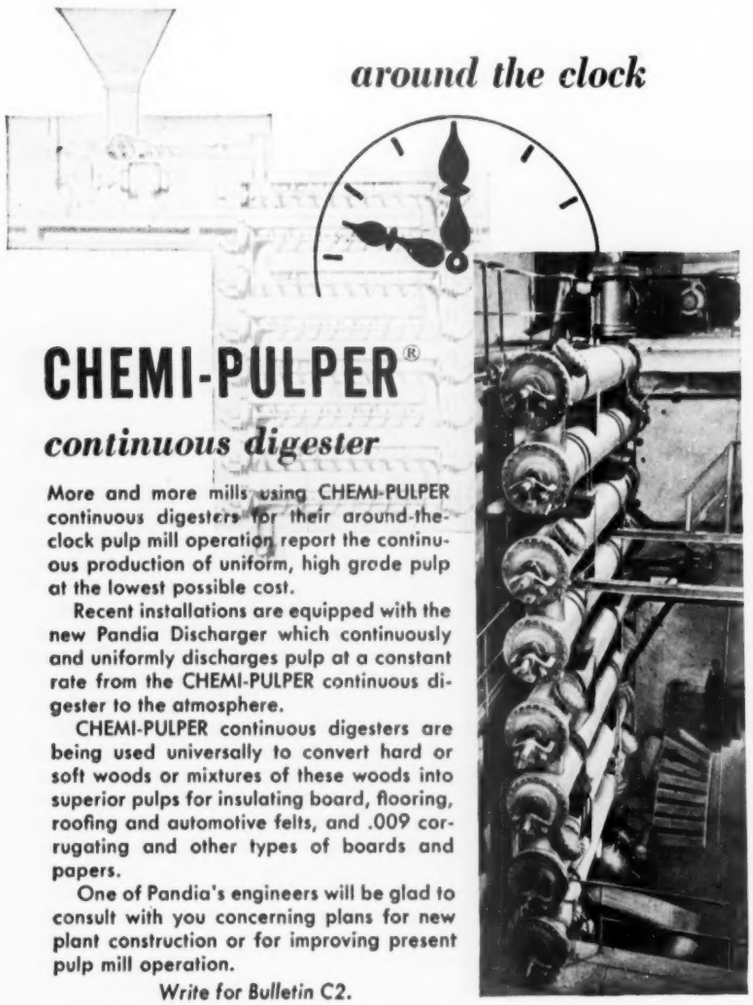
TOM INGRAM, who served as superintendent of Sonoco de Mexico during its start up period, returned to Sunoco Products Co.'s plant at Hartesville, S.C.

CHARLES STEALEY, JR., has become forester for Independent Pulpwood Producers, Inc., Cleveland, Texas. He succeeded Bruce Stewart.

PHILIP J. MOSES has become a consulting forester as Woodland Managers, P.O. Box 542, Lake City, Fla.

N. W. SENTELL, chief forester for Southern Advance Bag & Paper Co., has been named a member of Louisiana Forestry Commission. He is brother-in-law to Governor Kennon.

around the clock



CHEMI-PULPER®

continuous digester

More and more mills using CHEMI-PULPER continuous digesters for their around-the-clock pulp mill operation report the continuous production of uniform, high grade pulp at the lowest possible cost.

Recent installations are equipped with the new Pandia Discharger which continuously and uniformly discharges pulp at a constant rate from the CHEMI-PULPER continuous digester to the atmosphere.

CHEMI-PULPER continuous digesters are being used universally to convert hard or soft woods or mixtures of these woods into superior pulps for insulating board, flooring, roofing and automotive felts, and .009 corrugating and other types of boards and papers.

One of Pandia's engineers will be glad to consult with you concerning plans for new plant construction or for improving present pulp mill operation.

Write for Bulletin C2.

Manufactured and Sold in Canada by
THE ALEXANDER FLECK LIMITED, OTTAWA, CANADA.

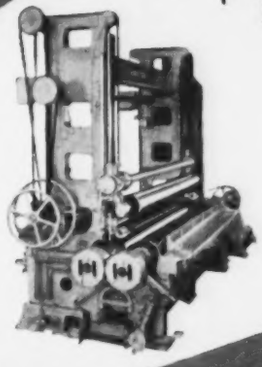
PANDIA **PANDIA INC.**
122 EAST 42nd STREET • NEW YORK 17, N. Y.

PANALARM "50", a new type of plug-in annunciator system incorporating complete interchangeability of circuits and functions, has been announced by Panalarm Products, Inc., Chicago 40, Ill. The new system is unique in that a single, standard PANALARM can be used to signal any "off-normal" condition throughout a plant. Plug-in units are hermetically sealed, thus protected from adverse atmospheres or corrosion, and suitable for all Class I, Division 2 locations. Used either as running or trouble signals, PANALARM "50" systems provide both an audible and a visual alert signal that must be acknowledged by the operator when any "off-normal" condition develops. Further information is in new Catalog 100 available upon request to Panalarm Products, Inc., 6312 North Broadway, Chicago 40.

LANGSTON
Slitters and Winders

Heavy cast iron bedplate and heavy cast iron side frames contribute to ruggedness and long life, enabling users of Langston high speed Slitters and Winders to turn out top quality rolls.

Samuel M. Langston Co.
CAMDEN, N. J.



MIDDLE WEST NOTES

SUNNY FLORIDA beckoned the last month to quite a number of Middle West executives although Wisconsin, Michigan and other nearby states enjoyed a very mild winter. *JOE CONWAY*, president of Hoberg Paper Mills, was a late February visitor in Florida. *EARL (MICKEY) McCOURT* of Consolidated Water Power & Paper Co., Wisconsin Rapids, was in Florida in March with Mrs. (Muggs) McCourt and they planned a trip later this year to the Pacific Coast.

W. H. WEBB, Niagara Falls, N.Y., will move to Neenah, Wis., to take charge of the personnel dept., Kimberly-Clark.

C. J. (MIKE) McMAHON, sales representative, Appleton Woolen Mills, was recently inducted in the 25-year club of the company, at the unit's second annual party in the Appleton, Wis. Elks club. Mr. McMahon was presented with a watch by Mrs. Anne H. Orbison, company president. During the after-dinner program, Mr. McMahon related some of his sales experience and A. H. Thuerer, secretary and production manager, spoke on production problems.

JOHN McCLUNE, Wisconsin Information Service, Appleton, Wis., who maintains his office in his new home on Kinzie Court, Menasha, Wis. deserves praise for arranging the exhibit of the Wisconsin paper industry, magazines, etc., which was the subject of close study by many of the 2,800 delegates to the American Paper and Pulp associations' annual convention, New York.

CHARLES H. SAGE, vice pres., Kimberly-Clark, has been elected chairman of the Forest Industries Council.

E. A. PAGE, safety supervisor for Kimberly-Clark Corp., congratulated the city of Appleton, Wis., for its perfect record in 1952—not a single traffic death.

ED WEINFURTER, Nekoosa-Edwards Paper Co., Port Edwards, Wis., was promoted from general foreman to operating superintendent at the Nekoosa pulp mill. Mr. Weinfurter started at Nekoosa as a millwright in August, 1919. Another promotion involved *ART BERNHARDT*, chemical engineer since early 1952, was named assistant superintendent. Mr. Bernhardt came from the Kalamazoo Vegetable Parchment Co., Parchment, Mich., and Espanola, Ontario. He is a graduate of New York State College of Forestry.

TILMAN PRICE, The Gardner Board and Carton Co., has been promoted to beater foreman at the Lockland, Ohio, plant. Mr. Price joined Gardner in 1930.

WILLIAM A. PATON, holder of the Edwin F. Gay professorship of accounting at the University of Michigan, has been appointed to fill a vacancy on the board of directors of Kalamazoo Vegetable Parchment Co., according to Dwight L. Stocker, pres.

HAROLD E. TALBOTT, President Eisenhower's Secretary of the Air Force, formerly of Mead, served on the Mead board of directors since 1917 and had been chairman of their Finance committee since 1940. He resigned both posts on Jan. 14. Mr. Talbott's interest in flying goes back many years as he remembers how Orville and Wilbur Wright assembled their original plane. He likes to ride and at one time was one of the leading polo players in the country. He also is a great baseball fan, and shares a box at Yankee Stadium with Herbert Brownell, the new attorney general.

CHARLES E. WINKELMAN, director of industrial engineering, Gardner Board & Carton, was a recent speaker at Ohio University. *CHARLES SWEITZER* has been promoted at the Gardner mill in Middletown to chemist. He is a Syracuse graduate *WILLIAM PEIST* is covering the midwest area out of Chicago for Gilman Paper. He had been with Gare Paper Products and Jos. Weil & Sons.

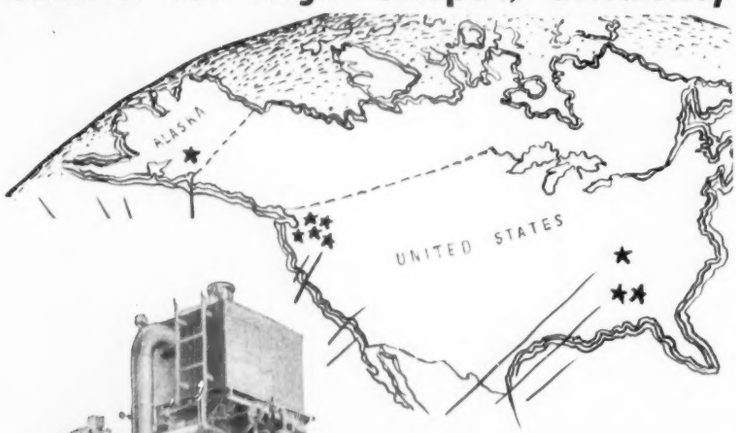
A. C. DELMONT has been appointed sales manager of Fort Howard Paper Co., Green Bay, Wis.

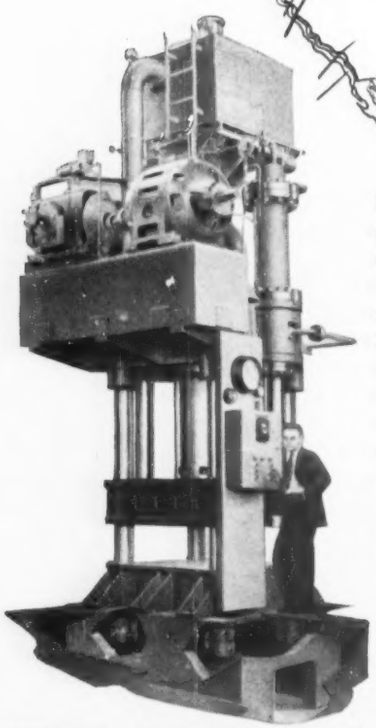
PHILIP STAPLES has been named new Chicago district sales mgr. for Penn Salt.

MEAD CORP. APPOINTMENTS

CHANGES IN THE MEAD CORP. (l. to r.):
A. RODNEY BOREN, elected Asst. Vice Pres. for Paperboard and continues as a Director of Mead Board Sales, with offices in Dayton, O., and now his work will be mfg.-sales coordination.
EDWARD N. NIEDERAUER, former Asst. Mgr. at Mead's Escanaba, Mich., Mill, who becomes Production Mgr. Kingsport, Tenn., Division. He had formerly been in technical work at Kingsport before going to Michigan in 1946 as Gen. Supt.
WILLIAM H. TETER, succeeded at Kingsport by Mr. Niederaur, is promoted to Corporate Director of Planning at Kingsport, where he will remain. He also will serve on corporation's Egineering & Development Committee. Other Mead Changes: JOHN R. TAGGERT, promoted to Asst. Production Manager at Kingsport. O. C. GREENLES, promoted to Asst. Paper Mill Supt. at Escanaba, succeeding O. C. CHRISTIANSEN'S promotion to Paper Mill Supt. Escanaba, was reported in Jan. PULLP & PAPER (picture in Jan., page 68).

WASHINGTON Pulp Baling Presses Chosen for High Output, Efficiency





IN INSTANCE after instance, among pulp mills newly built or expanded for increased production, Washington rapid traverse, automatic cycle control, 1000-ton hydraulic pulp baling presses have the consistent choice. As the sketch above indicates, Washington presses have been selected for outstanding installations extending over a continent-wide area.

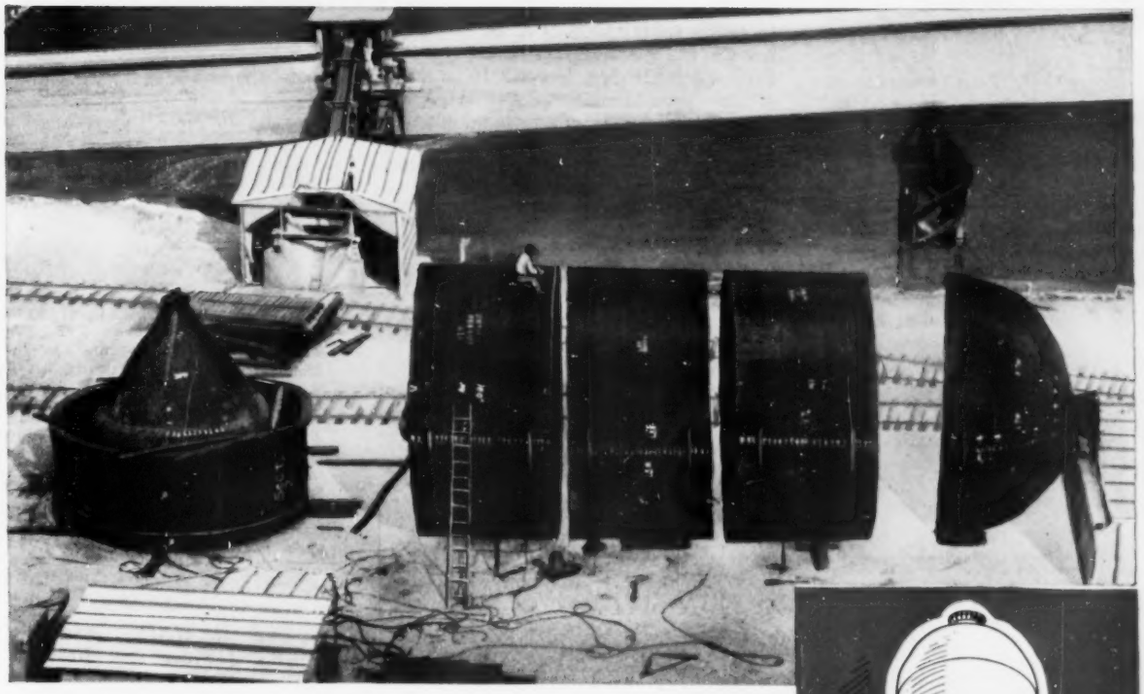
Inquiries for either standard or special types of presses are invited.

WASHINGTON IRON WORKS

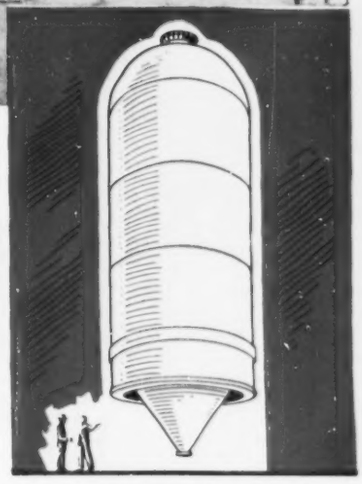
1500 6th Ave. South, Seattle 4. EL 1292

Since-1882

WASHINGTON IRON WORKS



140 tons of chips per cook!



When welded into a complete unit this became the world's largest lined sulphite digester. 58 feet in height, the inside diameter is 19 feet, and it will take about 140 tons of chips per cook. The inside is Smithlined, bonded to the carbon steel digester walls by A. O. Smith's time-proven process of closely controlled resistance spot welding.

That's the capacity of Rayonier's new Smithlined Sulphite digester installed at their Fernandina, Florida Division

Important news to pulp and paper men, because it means more pulp production per day.

Important news to paper men also, to know that A. O. Smith had the design engineering, manufacturing know-how, and plant facilities to successfully handle this huge digester from blueprint to finished installation.

HERE'S HOW WE DID IT!

1. Our metallurgical and welding engineers, who have been working with Rayonier for a number of years on the use of corrosion resistant linings for digesters, collaborated with their engineers on the selection of the corrosion resistant linings and welding procedures.
2. Too big to be shipped in one piece, our design engineers planned the production for a maximum amount of shop assembly to hold expensive field construction to a minimum.
3. Furnished field welding specifications that produced a digester of the same rigid high quality standards as those manufactured under the exacting controls of A. O. Smith shop practice.
4. Provided a welding engineer with over 20 years' experience to control the execution of the specifications, hire, qualify, and supervise all welders and personally handle and evaluate all test procedures.

Consult A. O. Smith on your next vessel problem. Contact the nearest district office listed below.

78th ANNIVERSARY 1874 1952

A.O.Smith

CORPORATION

VESSELS—HEAT EXCHANGERS

• *Licensee in Canada:* **JOHN INGLIS CO., LTD.**

Chicago 4 • Cleveland 13 • Dallas 2 • Denver 2 • Houston 2 Los Angeles 22 • Midland 5, Texas • New Orleans 12 • New York 17 • Pittsburgh 19 • San Francisco 4 • Seattle 1 Tulsa 3 • Washington 6, D. C.

International Division: Milwaukee 1

Personals

NORTHEAST NOTES

JOHN B. SCHEIBLER, who has supervised the Kimberly-Clark Corp.'s manpower division of the Industrial Relations dept., at Neenah, Wis., has been named personnel supt. at the Niagara Falls, N.Y., mill. He will begin his new duties about May 1.

FRANK J. LOVEGREN, formerly of Inland Empire Paper Co. and United Paperboard, has joined the new products development department of P. H. Glatfelter Co., Spring Grove, Pa.

JOHN J. CARROLL has been promoted to sulfite superintendent at St. Regis Paper Co. at Deferiet, N.Y. *JOSEPH POWELL* succeeds Mr. Carroll as assistant sulfite superintendent. *DONALD M. FERGUSON* has been appointed superintendent of the beater room. *RICHARD MURTAGH* is the new director of technical service. *ELMER BAILEY* has been promoted to general yard superintendent.

J. A. QUINLAN, vice president of St. Regis, New York City, has been appointed chairman of the traffic committee of the American Paper & Pulp Assn. to succeed *W. L. THORNTON Jr.*, general traffic manager, Kimberly-Clark Corp.

R. LINDLEY MURRAY, president of Hooker Electrochemical Co., has been awarded honorary membership in the American Institute of Chemicals.

WALTER B. MOREHOUSE (left), named Assistant Vice Pres. of Nopco Chemical Co., Harrison, N. J. He joined Nopco in 1940 as Paper Chemical Sales Manager, a position he retains, but he also will supervise all Industrial Div. field personnel. He is a Syracuse graduate.

JUAN SWOBODA (right) appointed exclusive agency representative in Argentina and Uruguay by Beloit Iron Works, according to Pres. Harry Moore. Juan Swoboda, Inc. offices are at Avda. Pte. R. S. Pena 710, Buenos Aires, Argentina. Dr. Swoboda also has an office in New York at 55 West 42nd St. under direction of Mrs. V. Laqueur.

A SIGNIFICANT ADVANCE
INITIATED BY Lindsay
Magnified view of plastic edge reinforcement.
Lindsay research recognized and solved the need for the fast, lasting edge repair of Fourdrinier wires. This advance is saving countless hours of down-time in many paper mills. The Lindsay method is simple and inexpensive, paying for itself within a few days, as attested by operating experience. . . . The Lindsay Wire Weaving Company, Cleveland 10, Ohio.
Lindsay WIRES
FOR PAPER MILLS

ELMER R. WAITT, superintendent of Spaulding Fibre Co., North Rochester, New Hampshire, was cited for his part in rebuilding of that mill after it burned in 1945 and named "Papermaker of the Month" in a recent Noble & Wood *Agitator* issue. Mr. Waitt joined Spaulding in 1933 at age of 21 at Milton, N. H. and in 1942 was promoted to superintendent at North Rochester.

LAWRENCE K. NORTON has been designated as assistant to *HARRY C. LAWLESS*, vice president and director of sales for Gilman Paper Co., New York. In addition to his new duties, Mr. Norton heads the sales department of Cellucord Corp., a Gilman subsidiary.

PERCY J. EBBOTT, president of Chase National Bank, has succeeded *WINTHROP W. ALDRICH*, newly appointed Ambassador to England, as a director of International Paper Co.

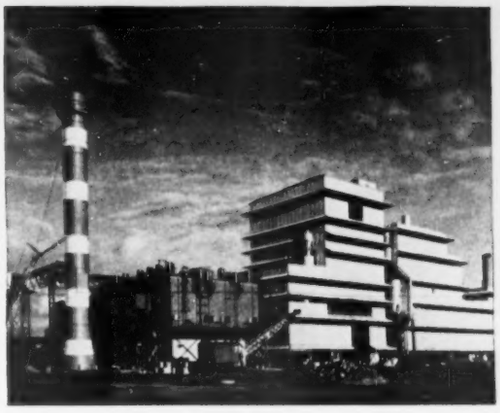
CHARLES D. BONSTED has been named to head the New York City news bureau of American Forest Products Industries. Mr. Bonsted joins the group after four years at New York College of Forestry at Syracuse.

KENNETH RAWSON is now covering the Eastern territory for Gilman Paper Co.'s gummed tape and general paper sales divisions.

DR. LOUIS T. STEVENSON is retiring as economist of the American Paper and Pulp Assn. to become associated with an investment house, where he will continue to be available for consultation by APPA and other associations and companies in the industry. Dr. Stevenson will be succeeded at APPA by *JOHN L. VOGEL*, economist with the Pulp, Paper and Board Division of OPS.

WALTER BUCHANAN has been appointed paper mill superintendent at the Harrisville, N.Y., mill of St. Regis Paper Co., succeeding William Argy, who resigned. Mr. Buchanan has had more than 30 years experience in the papermaking field, most recently with St. Lawrence pa-

New St. Regis Mill at Jacksonville . . .



. . . all steam by C-E

Located on a two hundred acre site on the outskirts of Jacksonville, Florida, this new kraft pulp, paper and board mill represents an important step in the long-range expansion program of the St. Regis Paper Company. Outstanding in many respects, this mill contains nearly a million dollars worth of equipment installed specifically to eliminate or materially reduce the problems of waste disposal.

All steam generating equipment for this new mill was supplied by Combustion Engineering. It comprises: (1) a Chemical Recovery Unit designed to burn 900,000 pounds of black liquor dry solids per 24 hours; (2) a Power Boiler (VU-50 type) to burn oil or natural gas and designed to supply 160,000 lb of steam per hr; (3) a Bark Burning Boiler equipped with high set spreader distributors and continuous discharge grate to produce 135,000 lb of steam per hr. All the steam generating equipment is designed to operate at 625 psi and 750 F.

The choice of C-E equipment for this outstanding new mill is well justified, we believe, by the consistently fine performance record of similar C-E units in major pulp and paper mills throughout the country.

COMBUSTION ENGINEERING—SUPERHEATER, INC.

Combustion Engineering Building
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PRODUCTS FOR THE PAPER INDUSTRY INCLUDE RECOVERY UNITS, STEAM GENERATING, FUEL BURNING AND RELATED EQUIPMENT, AND PRESSURE VESSELS

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HEAT and CORROSION

ESCO "Assured Analysis" High Alloy Castings

The Spectograph above verifies the correct chemical composition in every ESCO casting. This modern equipment does in 30 minutes what six metallurgists, using older methods of analysis, formerly accomplished in one day.

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A Wide Range of ESCO Alloy Products available for critical conditions of Heat and Corrosion.

- Pipe and Flanges
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- Kiln Cooler and Roaster Parts
- Refinery Castings
- Heat-Treating Parts
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If you've never tried *ESCO* castings in the critical heat or corrosion areas of your plant, you'll be surprised at the lower maintenance—the *much longer* life—of an *ESCO* engineered and produced high alloy casting.

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(2) *ESCO* maintains one of the most intensive and modern quality control programs of any foundry.

(3) *ESCO's* Engineering Service determines the right alloy for your specific problem.

ESCO Services and Products are ready to help you realize more profit from your plant. Whether you need a single fitting or a complete operating unit—*ESCO* engineers will be glad to make a recommendation. Write today, giving full details—or ask for Catalog 175, which contains informative data on heat and corrosion.

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Offices and Warehouses: Honolulu, Hawaii; Houston, Texas; New York, New York; Los Angeles, San Francisco, California; Seattle, Spokane, Washington; Centralia, Pennsylvania; Eugene, Medford, Oregon; Salt Lake City, Utah. In Canada: Vancouver, B. C., and Toronto, Ontario.

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(l. to r.) V. B. BODENHEIMER, formerly of Riegel Carolina Corp., Acme, N.C. has been assigned as new Sales and Service Engineer by Stebbins Engineering & Mfg. Co., for the South with headquarters at 2007 North 11th Ave., Pensacola, Fla. Previously, he was with Bleach plant and Mill Testing Foreman at Champion, Canton, N. C. He graduated from North Carolina State College, served in Air Force in World War II.

PAUL E. ROBERTS, new General Manager of Alaska Pine & Cellulose Ltd., in Vancouver, B. C., with two mills in Brit. Columbia, was Manager of New Development in Toronto for Abitibi.

DAVID R. BAKEWELL, newly appointed Vice President in charge of all operations, C. D. Schultz & Co., Vancouver, B. C. He joined the company of consulting foresters in 1945.

Personals

CANADIAN NOTES

C. K. LOCKWOOD, in charge of stainless steel and alloys division, Shawinigan Chemicals Ltd., Montreal, has been appointed a vice president, succeeding *C. M. CARMICHAEL*, who has retired after heading that division since 1945. Mr. Lockwood joined Shawinigan Chemicals in 1937 and became sales manager of the division seven years ago. *J. H. GIBBS*, of Shawinigan falls has also been appointed a vice president. He is in charge of manufacturing. The promotions were announced by *B. G. BARTRAM*, president. *A. T. HURTER*, head of Stadler, Hurter & Co., consulting engineers, Montreal and New York, has been elected president of the Association of Consulting Engineers of Canada.

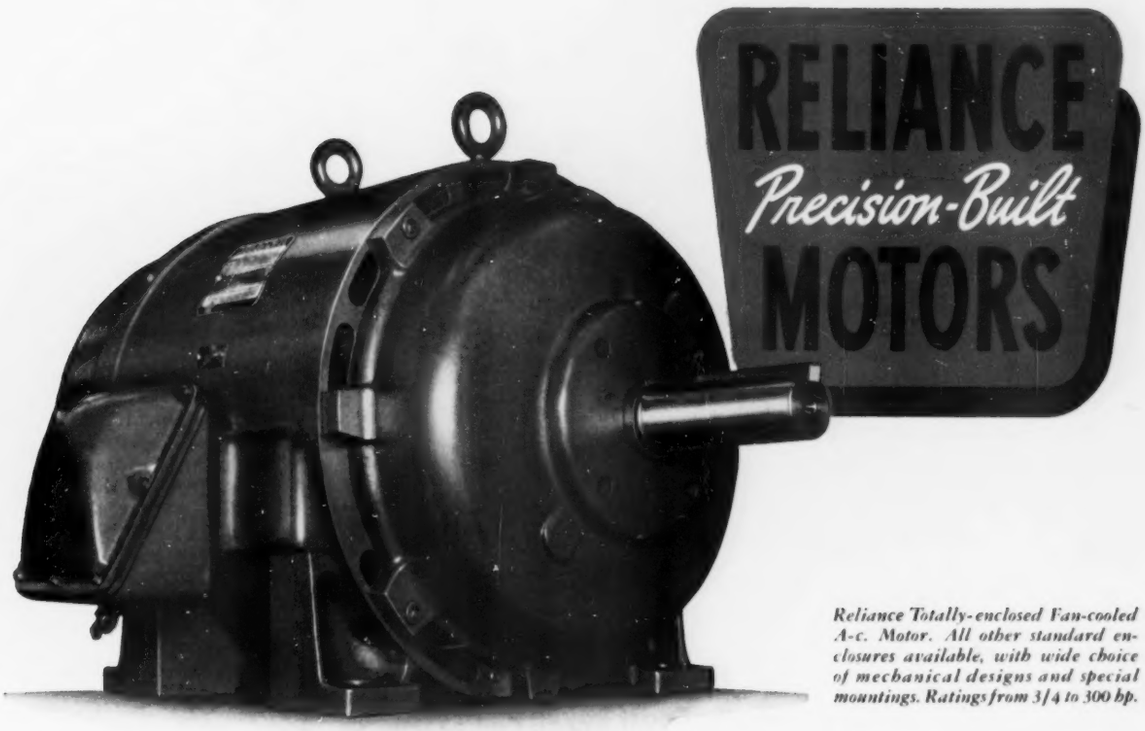
J. C. HODSON, formerly comptroller of Pacific Mills Ltd., Vancouver, B C., has been appointed treasurer, effective March 31, succeeding *J. A. YOUNG*, who resigned that position after 25 years' tenure. Mr. Hodson joined the company as a member of the accounting staff at Ocean Falls mill in 1935, and became office manager two years later. Mr. Young continues as first vice president.

MEL OKE, formerly with Candian Paper Boxes, Vancouver, who has been serving as secretary of the technical section, western branch, Canadian Pulp & Paper Association, has been appointed manager of Manton Bros., Vancouver supply house.

Austin is Life Member

A life membership in the Superintendents Association was just recently presented to Percy C. Austin, Bathurst Power & Paper Co., Ltd., Bathurst, N.B., Canada.

DEPENDABLE...because they're ENGINEERED FOR RUGGED SERVICE



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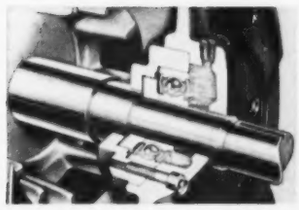
- ☆ Heavy shafts, bearing to bearing
- ☆ Indestructible pressure-cast rotors
- ☆ Shock-resistant frame and bearing-bracket construction



. . . AND THE BEST PRE-LUBRICATED BEARING DESIGN

The Reliance pre-lubricated bearing provides *four times more operating hours without re-lubrication* than any other bearing used in motors today. And—whatever your lubrication schedule—*you just can't grease 'em wrong!* To get the complete "inside story" on motor bearings, write today for Bulletin B-2201. It contains hard facts on the advantages of the Reliance pre-lubricated bearing design, with cutaway view, cross-section diagram, comparison chart, and statements by bearing manufacturers. B-1458

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Designed to Trim your Trimming Costs!

86" Model E. Undercut Trimmer showing side loading table. Loading table and air for floating pile are optional equipment.

SMITH & WINCHESTER
MODEL E
UNDERCUT TRIMMER
with Side Loading Table

Designed to Cut Trimming Costs

The S & W Model E Undercut Trimmer meets the needs of the modern finishing department for high production, accuracy and safe operation. For years the Standard Undercut Trimmer and the Model E have been giving outstanding service in the leading plants of the country.

Now, we offer the Model E with side loading table and air for floating pile, for fast, straight line operation, ease of handling stock and increased efficiency. The Model E is built in 56", 66", 76" and 86" widths.

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MEN WANTED—POSITIONS OPEN

We can place—Manager Fourdrinier mach. paper mill, including pulp mfg. and bleaching; supt. paper converting plant; night supt. Fourdrinier mach. papers; asst. mgr. dissolving pulp mill; supt. mill making flat tissue; lightweight sulphites, etc.; supt. rag content paper mill; technical director, supt. kraft liner board, semi-chemical .009 and bleached food board.

Chemists, chem. engineers and laboratory men for mills and for demonstrating and selling; master mechanics, plant engineers and asst. plant engineers; mechanical, civil and electrical engineers and assistants; power plant supervisors; color matcher and chemist.

Salesmen for industrial papers; technical service man for paper mills in South; Cylinder mach. foreman; finishing foreman for sulphite bond papers and board; super calender operators; beater engineers; air dryer operator; converting foreman; machine tenders; back tenders third hands and fourth hands.

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Several positions with good advancement potential available in large national chemical manufacturing organization, involving sale and service of chemicals to the paper manufacturers. Graduate chemists or chemical engineers preferred, but not essential. Please submit complete resume and indicate salary desired. Our sales staff has been informed of these openings. Write to P&P Box: 145, c/o PULP & PAPER, 71 Columbia Street, Seattle 4, Washington.

Slight Chance For Pacific Coast Rayon Plant

Industrial Rayon Corp., one of the first of the rayon world to go heavily into use of purified wood cellulose instead of linters and now a prime use of woodpulp, would consider building a rayon plant in California if it were possible to obtain accelerated tax amortization from the government.

Its directors, however, see very faint hope of obtaining a certificate of necessity. Industrial Rayon sales declined 26% under 1951 in 1952. The loss was in textiles, despite the increased tire rayon sales. It is presently expanding its Cleveland and Painesville, O., rayon plants.

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Hawaii May Make Bagasse Pulp in a Year —But No Newsprint

Another year of experimental work with bagasse directed by the Hawaiian Sugar Planters' Association "could lead to small scale production of low quality pulps and positive indications of the prospects for pulps having a higher value."

This statement was made recently in the annual report of the association, presented at its 72nd annual meeting in Honolulu, T. H., by A. G. Budge, association president.

The report further stated: "Extensive studies of the production of paper from bagasse indicate that the problems are less technical than economic in character," he said.

"Newsprint possibilities, as far as local production is concerned, are negative. Though the basic difficulties might be overcome—that is, the stiffness and opacity that characterize bagasse papers—local volume would not be sufficient to support an economic-sized plant, and export to the mainland seems impractical."

The annual report showed research being carried on for the association in bleaching of pulp and on an experimental paper machine in the new Crown Zellerbach Development Laboratory at Camas, Wash. Research work also is being done at Waipahu, Hawaii, and at the National Research Laboratory at Peoria, Ill. The report also mentioned research being done at Camas and Peoria, as well as at Syracuse University and the Institute of Paper Chemistry in Appleton, Wis.

The Hawaiian industry began its present campaign to find sugar by-products in 1951. Its 28 companies produced over 1,000,000 tons of sugar in 1952, one-fourth of the U. S. total and one-seventh of U. S. consumption.

WANTED

"Designers, detailers, layout draftsmen for board work with old established manufacturer of medium and heavy machinery. Men with paper mill machinery experience preferred. Permanent openings, excellent salary and working conditions. Hospital and surgical benefits. Resume covering work, technical history, and salary expectancy required." Address P&P Box No. 144, % PULP & PAPER, 71 Columbia Street, Seattle 4, Wash.

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CONVERTING MILL in Midwest or far West to manufacture, ply, cut and box cellulose wadding. Integrated and converting mill preferred. Can guarantee approximately 1200 tons per year on contract basis. Will consider investment to expedite manufacture of right quality. Write details to: P&P Box No. 146, c/o PULP & PAPER, 71 Columbia Street, Seattle 4, Washington.

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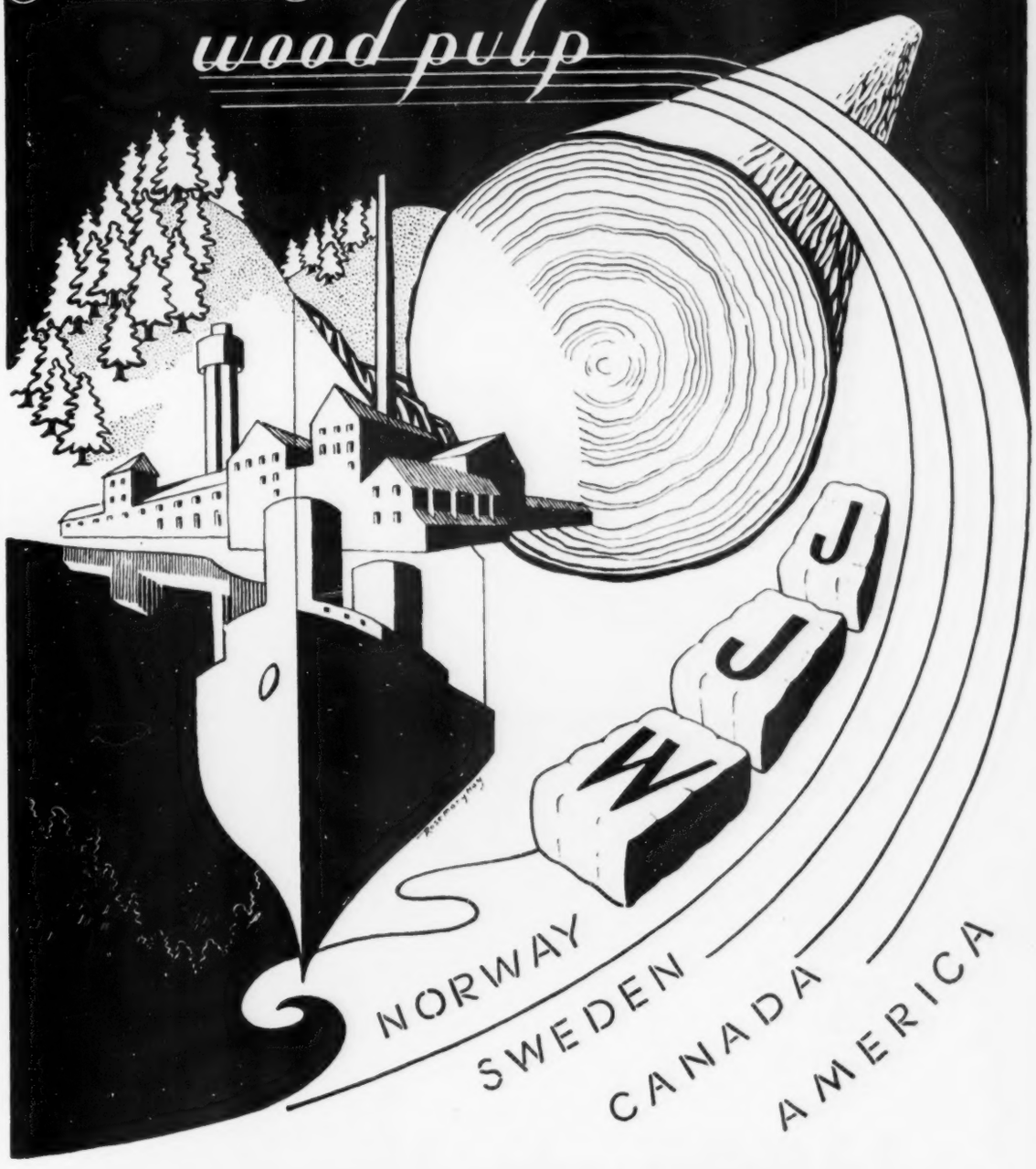
wood pulp



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TELEGRAMS: "WETTRE, LONDON."

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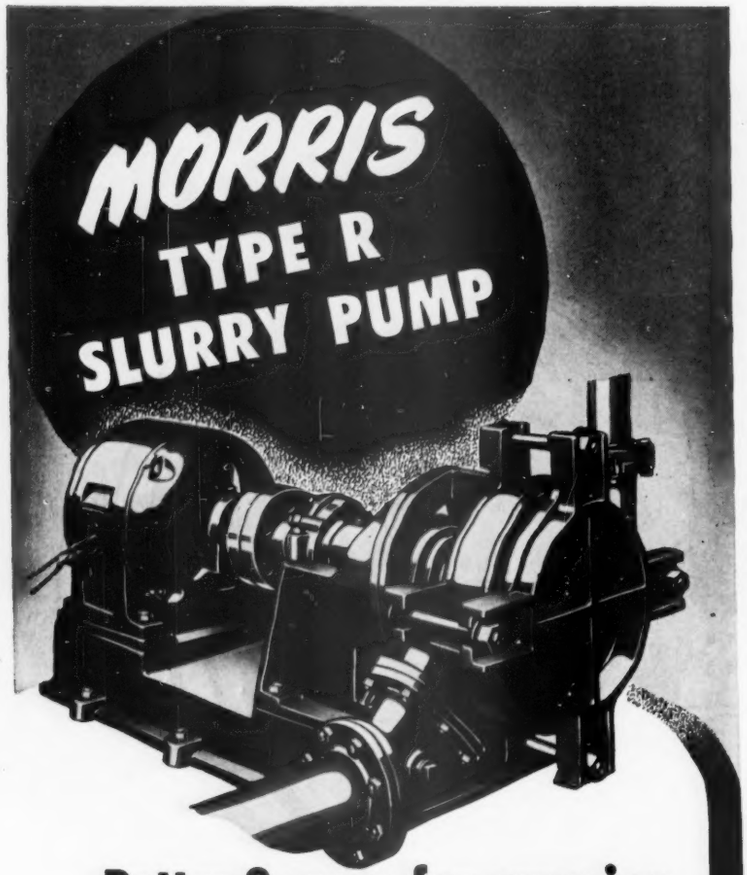

Better 8 ways for pumping
BLACK LIQUOR

1. LASTS LONGER—thanks to heavier wear-resisting parts, minimum wearing parts.
2. LIQUOR CAN'T SEEP PAST THREADS—no internal studs or bolts to cause maintenance woes.
3. ELIMINATES MOST PACKING TROUBLES—thanks to low pressure stuffing box with gland under suction pressure only.
4. MINIMUM WEAR BETWEEN SUCTION DISC AND IMPELLER—thanks to extra-heavy suction disc liner.
5. INTERCHANGEABLE PARTS—pump parts of different alloys can be furnished to suit various concentrating of caustics.
6. FITS INTO EXISTING SYSTEM AS READILY AS IN NEW ONE—because suction and discharge nozzles swivel to 72 possible positions.
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For maintained high output — fewer shutdowns — minimum repair costs — specify MORRIS TYPE R SLURRY PUMP.

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MORRIS *Centrifugal Pumps*

Management's Function In A Safety Program

By G. W. E. Nicholson

Mr. Nicholson, executive v. p. of manufacturing, Union Bag & Paper Corp., made these comments at a recent safety meeting.

Industrial accidents present a social as well as economic problem. A good safety record is an expression of competent and enlightened management.

Safety education must be carried out continuously, every day and every hour, without any let-down, and I believe that I am correct in saying that most of us have experienced encouragement as well as great disappointment over the years, and that it is an uphill fight, at least until the level has been reached when everybody has acquired safe working habits.

Top management must actively participate in the formation of a safety program and it must give encouragement as well as active help in order to create enthusiasm, especially so when the going is at its worst.

I believe that there is one territory where we can accomplish the most by giving time, expense and ingenuity to a greater extent than we have done in the past, and that is in training of men. There are two steps in training, one of the supervisors and the other of the workers. The supervisor safety-training is an important part of the overall foreman training which is so much needed today. A training program must be organized in such a manner that it maintains the supervisor's interest. He must become interested on account of his realization that it will help him in his work and also better qualify him for promotion. A good foreman is always very close to the men working for him. He knows a great deal about the men's families and their problems. He gives encouragement to the individual worker and makes him feel that he can always come to him for advice.

A competent foreman will secure cooperation of his men more quickly by giving each man a definite responsibility rather than by presenting the safety problem entirely in the form of instruction and orders. All employes should take an active part in accident prevention work and must feel that the success of the accident program depends upon their individual efforts. The foreman's sincerity in performing his part in the safety program will be reflected in the cooperation he receives from the workers.

In the final analysis, the success or failure of any safety program in any plant depends upon two key figures—the plant manager and the foreman, and their main incentive must stem from the human desire to reduce suffering and to help their fellow employes.

Paper Bag Competition

Canadian manufacturers of paper bags used for seed, feed and similar produce report that competition from the Far East's jute bags has been increasing during recent months, but they believe they are holding their own.

Canada to Reconsider Wood Export

The province of Ontario, where much of Canada's sulfate pulp expansion has taken place in recent years, is now making an inventory of its forest resources and when this is completed present export quotas for pulpwood will be reconsidered, J. F. Sharpe, division of timber management for the Ontario government, informs PULP & PAPER.

Export of pulpwood from private lands in Ontario is unrestricted and only in its application to Crown, or government-owned, wood has there been a change in policy. Commencing with the calendar year 1948, exports of spruce, balsam and jackpine pulpwood were established on a quota basis.

These quotas were set for established U.S. purchasers and they decrease annually over periods of five to ten years depending on which category the export falls with respect to using or furnishing pulpwood for domestic purposes. All jackpine is in the ten-year category. Poplar is not restricted as to quota.

The rights of those firms having only five-year quotas have now expired, leaving only those in the ten-year category. In 1947, the total export of pulpwood from Crown lands in Ontario was 623,000 cords, whereas in 1952 the total had declined to 424,000 cords. On the other hand the export of freehold, or privately-owned, wood increased from 148,000 cords to 197,000 cords.

The province of Quebec, which leads all Canada in production of pulp and paper, similarly has no restriction on export of raw wood cut on private lands. Nevertheless, the shipper must procure a shipping permit from the department of lands and forests, states Roland Deschamps, chief of the Quebec forestry service.

This permit is delivered free since it is only a means of controlling the source of cutting, thus preventing illegal export of unmanufactured timber from Crown lands. In applying for shipping permits, the shipper must supply on proper forms all pertinent information concerning the area where the wood has been cut.

Mr. Deschamps points out that there might occur exceptional cases where for reasons of regional economy or for the public interest the minister of lands and forests might permit export of wood from Crown lands. In such cases, however, there is a special supplementary levy imposed on the wood so exported.

Ever since the passage of an order-in-council in 1910, all timber cut on Crown lands in Quebec must be manufactured in Canada; that is to say, converted into pulp or paper or lumber or any other product of which timber is the raw material.

New Zealand Survey

C. D. Schultz & Co., Vancouver, B.C., has been engaged to make the forest survey for Tasman Pulp & Paper Co., which will soon start construction of a newsprint mill in New Zealand. Head of the firm, C. D. Schultz, left for New Zealand in October and plans to have a crew there during the next few months.

K
ONLY NASH VACUUM PUMPS HAVE ALL THESE FEATURES
One Moving Element. Non-pulsating Vacuum.
No Internal Parts In Wearing Contact. No Internal Lubrication. Handles Liquid With Air.
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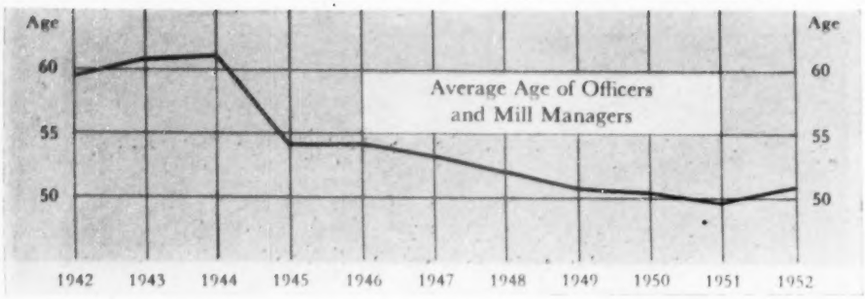
YOUNGER MEN IN MANAGEMENT



This chart is reproduced from the recent West Virginia Pulp & Paper Co. report to stockholders and it shows an interesting management trend in this company with its six fully integrated mills making over 800,000 tons of paper and board each year and with income after taxes of around $10,000,000 (sales over $100,000,000).

Here is encouragement for the young man in lower management ranks. It is no doubt being duplicated in many other companies. Said the West Virginia report:

"Existing conditions change, old techniques become outmoded, and every day new approaches to problems must be found. The most valuable asset any corporation can have is a continuing stream of alert, young individuals constantly being trained to assume the functions of management.

"For this reason, the company, on Oct. 1, 1944, adopted a program which makes the retirement of all salaried employes mandatory at age 65. This is intended to keep the management of the Company in the hands of active men at the peak of their mental powers, to create greater opportunity for the younger men and to stimulate the program of constant replacement training."

Last year, stock options were authorized for key employes. Over 60 employes have been allotted over 10,000 shares.

Hercules Decision on Pulp Mill May Be Far Off

While reports were widely current in the industry and at Paper Week that Hercules Powder Co. is considering building a purified wood cellulose mill at Hopewell, Va., PULP & PAPER was advised authoritatively as this issue went to press that it may be several months before any actual decision on the project is reached. If Hercules decided to go ahead, it would be a year or more before construction.

Experiment To Reduce Odor of Nekoosa Kraft Mill

First experiment in Wisconsin to alleviate unpleasant odor from a kraft mill has been started at the Nekoosa mill of Nekoosa-Edwards Paper Co.

While definite improvement has been noted, a decision whether to continue on a permanent basis depends on further results, cost and other factors.

The material used is a new product developed by the Du Pont company which was tailor-made for the pulp industry. It's called "Alamask P-3 Concentrate," and is a compound of synthetic aromatic chemicals.

According to J. C. Moertel, DuPont representative, the product does its job by masking the Kraft odor and produces a "spice-like" odor when added. A small quantity of Alamask (approximately 28 ounces to a 6-ton batch) is poured into digesters after chips are loaded. The compound is dissolved and goes through the entire pulp making and recovery systems.

Estimated cost for Nekoosa is about 22 cents per ton of pulp ($1,000 a month).

New Wood Fiber Use

Evans Products Co., for years a large producer of battery separators sliced from wood flitches, has developed a new type battery separator made of wood fiber. The organization, at its Coos Bay, Ore., plant, now manufactures these by reducing wood to fibrous state and re-assembling the fibers to form "Evanite" automotive battery separators.

The NAP must stand the gaff...

WOOL vs. STEEL

They are running paper and board machines at such terrific speeds these days that conditioners and section boxes must be installed to extract clay, dirt and ash from the felts in one continuous operation. The shoes of the conditioners are everlastingly at work on the nap of the felts—steel against wool.

No other felts can stand this gaff like Hamilton Felts! Hamilton Felts have nap in plenty. It looks soft and it feels soft because it really *is* soft. But, because it is the best grade of wool the nap of Hamilton Felts lasts longer than the edges of the steel shoes.

• ***Ask the Hamilton Felt man about this next time he calls at your mill.***

Hamilton Felts

MIAMI WOOLEN MILLS *Established 1858*

SHULER & BENNINGHOFEN, HAMILTON, OHIO

PERFORMING PRODUCTION MIRACLES...

Up production and cut down maintenance in your plant. Install rugged Fabri-Valves, made of stainless steel, monel, nickel alloy or any combination. Fabri-Valves are complete weldments of rolled plate, thus eliminating porous areas and assuring proper thickness. These light-wall valves are fabricated to give internal and external protection wherever required.

Alloy Fabri-Valves cost less, weigh less, are cheaper to ship and install. Fabri-Valves are designed to your specific requirements. They are especially recommended for use with light weight modern piping. 2" to 24" Fabri-Valves carried in stock. Custom made orders filled in 30 days. Contact your nearest agent.

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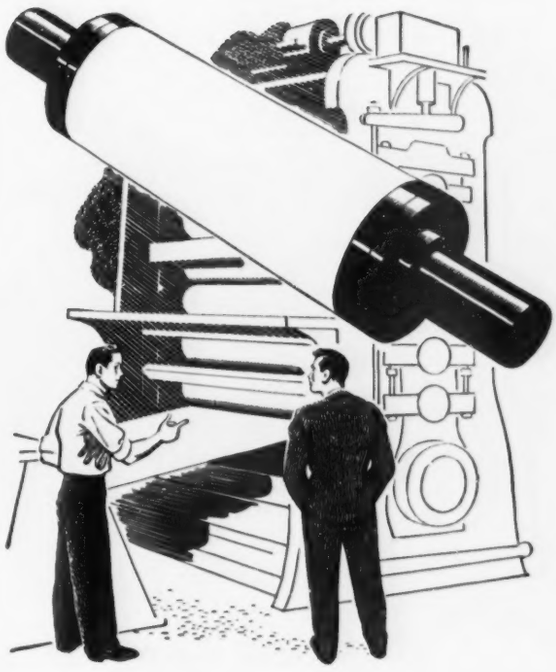

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Place one Butterworth Calender Roll in the stack with any other roll or set of rolls. Time it. See how many extra hours it runs without requiring turning down or refilling. Then figure what you have saved in down-time.

Many leading mills have made this simple test. Now they are standardized on Butterworth Calender Rolls. They like the extra service time; they like the smooth, uniform surfaces produced by these long-life rolls.

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CALENDER ROLLS

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improve production... reduce operating costs

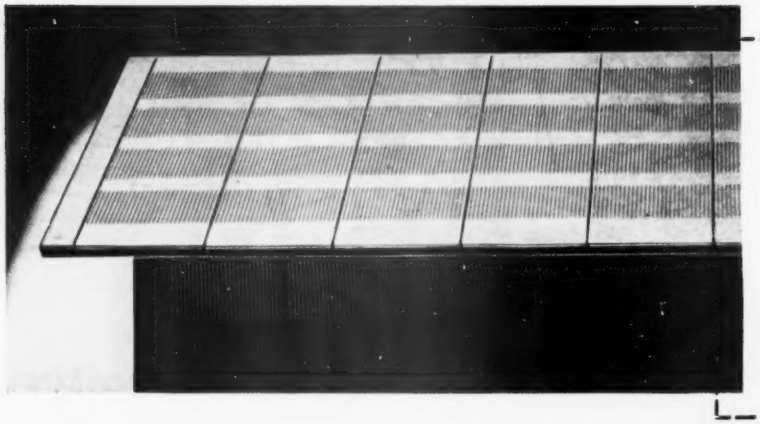
MAGNUS SCREEN PLATES, made of chrome-nickel-steel or inconel, have a high-strength, thin sheet design that's specially engineered for maximum flow. About 40,000 of these plates are now in service, with performance records that prove these three important advantages:

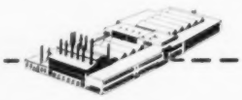
1. INCREASED PLATE CAPACITY. The thin sheet eliminates relief milling, and with recommended arrangement, substantially increases capacity per plate.

2. LONGER LIFE. Slots remain sharp, side walls highly polished for the life of the plate. There's greatly improved corrosion resistance, too.

3. HIGH, SUSTAINED YIELD. Thin-sheet screen plates assure consistent, uniform quantities of cleaner pulp. This means improved production at reduced operating costs.

Complete information is yours on request. Or if you like, we'll gladly have an engineer call.





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Fitchburg, Massachusetts
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Metalworkers for the Paper Trade

SCREEN PLATES: BRONZE, CHROME-NICKEL-STEEL, AND INCONEL

VALVES: GATE, SWING CHECK, BLOW, GLOBE, ANGLE AND "Y"

Keep Your Super Calender Operation Wrinkle-Free!

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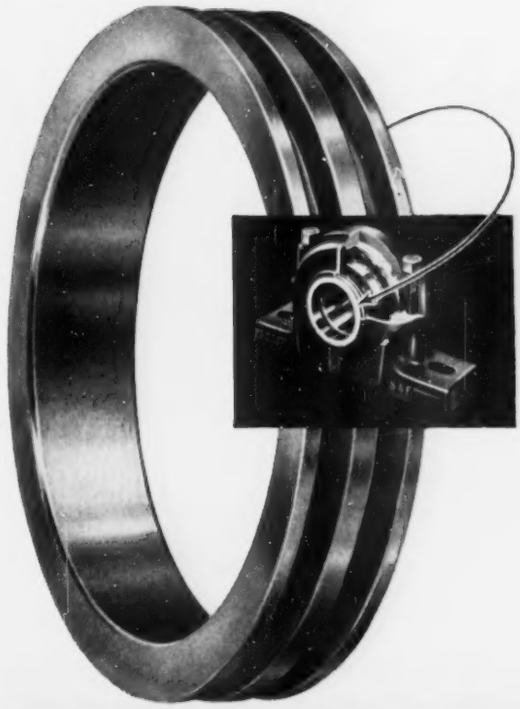

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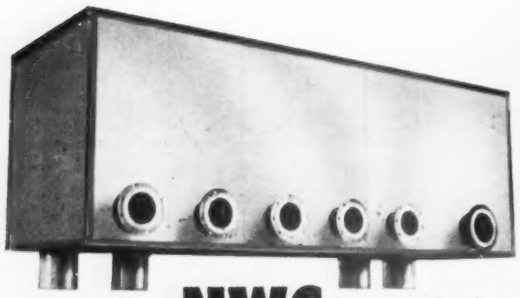

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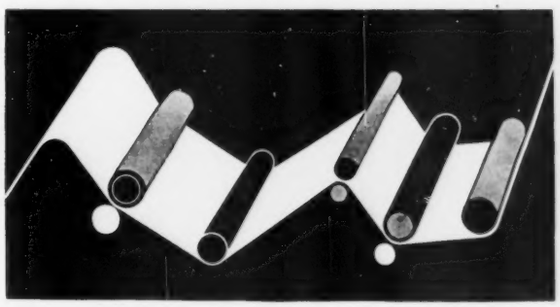

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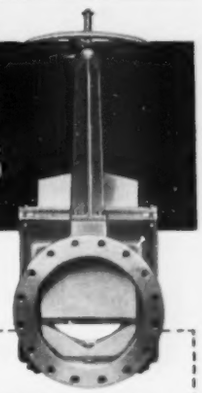

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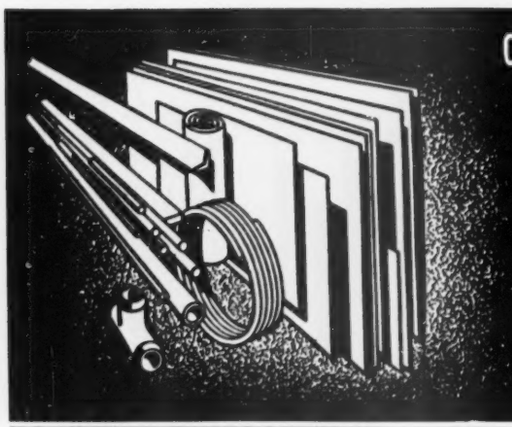

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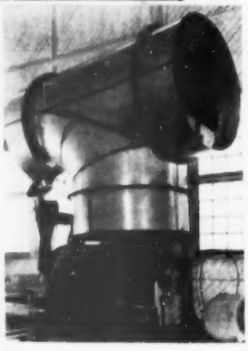

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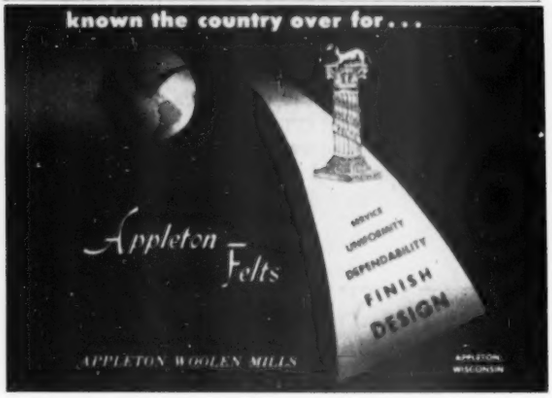

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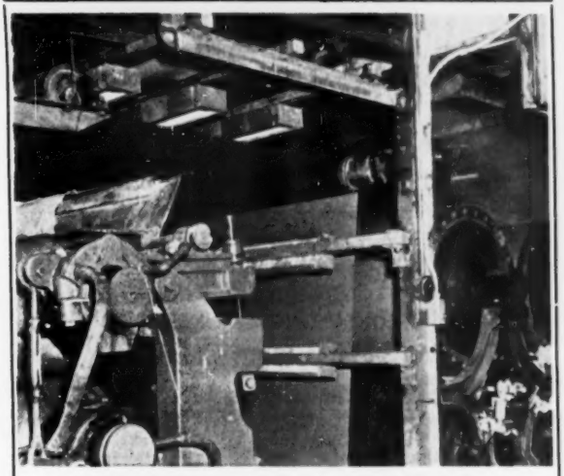

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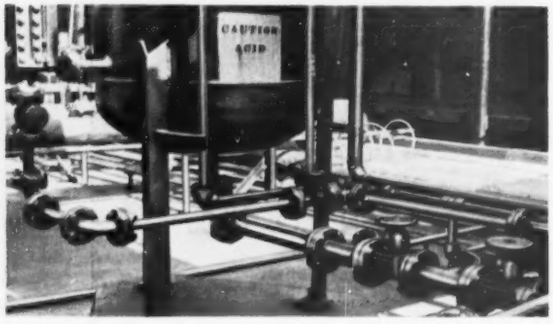

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